

AD-A043 215

ARMY TRIMIS AGENCY WASHINGTON D C
PROCESS CONDITION-ACTION DIAGRAM FLOWCHARTS. CLINICS SUBSYSTEMS--ETC(U).
NOV 76 F BOCK, D WEINBERG, B SMITH, M LIANG

F/G 6/5

UNCLASSIFIED

TRIMIS-ARMY-TR-1-3

NL

1 OF 1
AD
A043215



END
DATE
FILED

9-77

DDC

AD-A043215

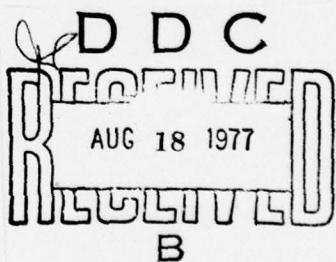
TRIMIS-Army Technical Report 1-3

CLINICS SUBSYSTEM

(1)

PROCESS
CONDITION-ACTION DIAGRAM
FLOWCHARTS

US ARMY TRIMIS AGENCY
Walter Reed Army Medical Center
Washington, D.C. 20012



November 1976

Approved for Public Release - Distribution Unlimited

"The views of the authors do not purport to reflect the position of the Department of the Army or the Department of Defense."

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM																		
1. REPORT NUMBER TRIMIS-ARMY-TR-1-3	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER																		
4. TITLE (and Subtitle) CLINICS SUBSYSTEM PROCESS CONDITION-ACTION DIAGRAM FLOWCHARTS		5. TYPE OF REPORT & PERIOD COVERED 6. PERFORMING ORG. REPORT NUMBER N/A																		
7. AUTHOR(s) CPT Frederick Bock, IV; David Weinberg; MAJ Ben Smith, DDS; Matt Liang, MD; John Cello, MD; MAJ Sharon Bystran, RN; LTC Mary Messerschmidt, RN; CPT Mike Strohmeyer		8. CONTRACT OR GRANT NUMBER(s) N/A																		
9. PERFORMING ORGANIZATION NAME AND ADDRESS USA TRIMIS Agency (SGTR-DO) WRAMC Washington, DC 20012		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS																		
11. CONTROLLING OFFICE NAME AND ADDRESS USA TRIMIS Agency (SGTR-DO) WRAMC Washington, DC 20012		12. REPORT DATE November 1976																		
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) N/A		13. NUMBER OF PAGES 74																		
		15. SECURITY CLASS. (of this report) UNCLASSIFIED																		
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE N/A																		
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release: distribution unlimited																				
<table border="1"> <tr> <td colspan="2">ACCESSION for</td> </tr> <tr> <td>NTIS</td> <td>White Section <input checked="" type="checkbox"/></td> </tr> <tr> <td>DDC</td> <td>Buff Section <input type="checkbox"/></td> </tr> <tr> <td colspan="2">UNANNOUNCED <input type="checkbox"/></td> </tr> <tr> <td colspan="2">JUSTIFICATION _____</td> </tr> <tr> <td colspan="2">BY _____</td> </tr> <tr> <td colspan="2">DISTRIBUTION/AVAILABILITY CODES</td> </tr> <tr> <td>Dist.</td> <td>AVAIL. and/or SPECIAL</td> </tr> <tr> <td>A</td> <td></td> </tr> </table>			ACCESSION for		NTIS	White Section <input checked="" type="checkbox"/>	DDC	Buff Section <input type="checkbox"/>	UNANNOUNCED <input type="checkbox"/>		JUSTIFICATION _____		BY _____		DISTRIBUTION/AVAILABILITY CODES		Dist.	AVAIL. and/or SPECIAL	A	
ACCESSION for																				
NTIS	White Section <input checked="" type="checkbox"/>																			
DDC	Buff Section <input type="checkbox"/>																			
UNANNOUNCED <input type="checkbox"/>																				
JUSTIFICATION _____																				
BY _____																				
DISTRIBUTION/AVAILABILITY CODES																				
Dist.	AVAIL. and/or SPECIAL																			
A																				
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) Same																				
18. SUPPLEMENTARY NOTES For use in conjunction with TRIMIS-ARMY-TR-1-1 Overview																				
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Flowchart, Condition-Action Diagram, Health Care, Information System, Ambulatory Care, Hospital, Outpatient Care, Clinic																				
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The purpose of the Clinics Subsystem "Manual" condition-action flowcharts is to offer an easily readable graphic representation of the major processes which make up an outpatient clinic system. The detail is of such a nature as to depict all clinic operations except actual details of tasks, so that what the physician actually does in the way of treatment for each patient, or how the medical outprocessing clerk actually fills in specific forms, is beyond the scope of these charts.																				

Block #20:

The processes charted herein represent methods being employed in an outpatient clinic modeling environment. As such, they are not necessarily indicative of general practices currently in use in any single military hospital. The modeling effort represents an attempt not only to update the general efficiency and quality of outpatient health care delivery, but also to try to parallel the operating conditions expected in the new Walter Reed facility. In this way, potential difficulties with work flow, patient timing, personnel training, and so forth, can be discovered and rectified early, making the transition into the new facility as smooth as possible.

TABLE OF CONTENTS

	<u>Page</u>
Acknowledgments	iii
Narrative:	
Purpose	1
Background	1
Limitations	1
Objectives	2
Expected Benefits	2
Subsystem Interfaces	3
Amenability to ADP Support	3
Files, Records, and Forms	4
Definitions of Abbreviations and Terms	8
Specific Flowchart Commentary	14
Condition-Action Diagram Interpretation Guide/Examples	18/21
Flowcharts:	
1. Clinic Patient Encounter	1 sheet
2. Clinic Reception Process	3 sheets
3. Clinic Appointed Patient Check	1 sheet
4. Clinic Appointment Process	2 sheets
5. Care Provider Encounter	3 sheets
6. Written Order Process	1 sheet

Table of Contents (continued)

7. Eligibility Check	1 sheet	33
8. Registration	3 sheets	34
9. Clinic Exit Process	2 sheets	37
10. Record Exit Process	3 sheets	39
11. Clinic Review Process	6 sheets	42
12. Clinic Triage Process	1 sheet	48
13. Clinic Admission Process	5 sheets	49
14. Record Finalization Process	1 sheet	54
15. No-Shows Process	1 sheet	55
16. Appointed Patient Record Pull List	1 sheet	56
17. Patient Follow-up Process	1 sheet	57
18. Order Suspense Check Process	1 sheet	58
19. Records Availability Process	2 sheets	59
20. Records Transport Process	1 sheet	61
21. Dental Facility Pre-appointment Activity	2 sheets	62
22. Dental Radiology Process	sheet	64
23. Dental Prosthetics Laboratory	1 sheet	65
24. Dental Facility Record Room	6 sheets	66
Index		72

ACKNOWLEDGMENTS

These charts were developed through the combined efforts of personnel of the US Army Tri-Service Medical Information Systems Agency (TRIMIS-Army) and the Walter Reed Army Medical Center (WRAMC). This undertaking, conducted concurrently with the establishment of an outpatient medical clinic operations modeling project at WRAMC, spanned 15 months and utilized both medical professional and systems analyst personnel from TRIMIS-Army, and medical professional, para-professional, and auxiliary personnel from the Model Clinic.

CLINICS SUBSYSTEM

NARRATIVES FOR FLOWCHARTS

1. PURPOSE

The purpose of the Clinics Subsystem "Manual" condition-action flowcharts is to offer an easily readable graphic representation of the major processes which make up an outpatient clinic system. The detail is of such a nature as to depict all clinic operations except actual details of tasks, so that what the physician actually does in the way of treatment for each patient, or how the medical outprocessing clerk actually fills in specific forms, is beyond the scope of these charts.

2. BACKGROUND

While the mission and specific functions of each outpatient clinic type is different (vastly in some cases) from those of other clinics, there exists a good deal of repetition of routine functions among all clinics. Patients must be appointed, they arrive, are seen, and leave in much the same way regardless of the medical problem for which they seek treatment. Clinics also range widely in both physical size and the size of their respective staffs. The system charted in the next few pages is designed to be useful for clinics of all sizes and types (including dental clinics whose major differences are also charted here). It is also reasonable to assume that certain portions of this system would not be useful in a non-military environment, and need not be implemented. All of the procedures and processes charted here have been implemented and are currently in use in a manual system at the Walter Reed Army Medical Center.

3. LIMITATIONS

The reader is cautioned to remember that these charts represent outpatient health care as delivered in a military hospital--with rules, regulations, limitations, and stipulations as set forth by the Surgeon General of the Army and members of his staff. Thus, certain processes, especially those of an administrative nature, closely parallel methods employed in civilian institutions while retaining military labels and nomenclatures.

The processes charted herein represent methods being employed in an outpatient clinic modeling environment. As such, they are not necessarily indicative of general practices currently in use at the Walter Reed Army Medical Center or any other military hospital. The modeling effort represents an attempt not only to update the general efficiency and quality of outpatient health care delivery, but also to try to parallel the operating conditions expected in the new Walter Reed facility. In this way, potential difficulties with work flow, patient

timing, personnel training, and so forth, can be discovered and rectified early, making the transition into the new facility as smooth as possible.

Operations in the new facility will require sizeable increases in the number of clerical personnel required to operate this subsystem as charted, especially if done in a totally manual mode. The assumption is that adequate numbers of additional personnel are available to fill these positions and that they can be trained to adequately perform all required duties, especially in an automated environment.

The reader must also understand that the military medical community places a great deal more stress on outpatient care at the hospital than does the civilian community. This results from a lack of "private" practitioners in the military and corresponds to office calls of private physicians in the civilian community.

4. OBJECTIVES

The overriding goal of any clinic is to provide top-quality health care to its patients. This requires the bringing together of nearly all of the hospital's services--both professional and non-professional--at the time and place where a need occurs. As outpatient care needs vary over a period of time depending on the seasons, etc., the clinic must be geared to give care in an orderly fashion regardless of the patient load.

Much work was done early in the clinic modeling effort to optimize patient appointing and scheduling, and improve patient flow within the clinic. Also, test results and reporting and maintenance of patient records have been emphasized. This work has yielded an environment where repeat testing, patient annoyance, and physician misuse have been minimized--if not eliminated.

5. EXPECTED BENEFITS

- a. Greater flexibility and capability.
- b. Improved utilization of personnel and material resources.
- c. Improved patient satisfaction.
- d. Standardization of procedures.
- e. Increased patient through-put without loss of quality of care.
- f. Ability to collect more meaningful and complete workload data for staffing purposes.

7. SUBSYSTEM INTERFACES

There are major interfaces in the Clinics Subsystem to the Patient Administration System, the Pharmacy System, the Radiology System, the Clinical Laboratory System, and the Patient Appointments and Scheduling System.

There are also minor interfaces to the Wards Subsystem and the Food Service System.

8. AMENABILITY TO ADP SUPPORT

These processes, as charted, represent only procedures and are, as such, technology-independent. It is now foreseen that most, if not all, of these processes will be automated in the future. However, each of them can be adapted to a completely manual health care system, as well as any manual/automated combination, simply by following the charts.

FILES, RECORDS, AND FORMS

The following are descriptions of files, records, and forms used in the Clinics Subsystem and referenced throughout the flowcharts:

1. Admission Forms. A variety of hard-copy forms used by PAD to collect identification and demographic data from patients during the formal process of admission.
2. Application for Treatment. Form used to apply for treatment and obligate patient for payment when patient is not eligible for treatment but is found to be or feels himself to be emergent.
3. Appointed Patient Record Pull List. List generated by PAS and sent to the record room in advance of the appointment day. Lists appointment day, patient's names, and clinics to which appointed. Used to pull records and transport to appropriate clinics in advance of appointment time.
4. Appointment Slip. A piece of paper containing patient identification data and a date and time of appointment at a particular clinic or for a particular process. Generally filled in by the person--physician, clerk, or patient--calling Central Appointments, and not by an appointment clerk.
5. Care Provider (CP) Daily Record File. Location, possibly a box in or near the office, where the patient records for a CP's clinic encounters for a particular day are placed prior to the beginning of business.
6. Care Provider Review In-box. A location, generally some sort of box or other document holder in the physician's office, where results from any ordered tests are placed for his review prior to the next patient encounter.
7. Care Provider Review Out-box. Location where physician places reviewed test results. After review, test results are sent to the record rooms and placed in the patient record or in a file for withdrawal at the time of the patient's next encounter.
8. Certificate of Nonavailability. A document, issued by PAD, which indicates that needed care or service is not available at the issuing Medical Treatment Facility (MTF). Allows patient to seek needed care at a civilian facility at total or partial government expense.
9. Clinic Consult Suspense File. File maintained in the clinic to insure finalization/typing of consult notes/results for consultations performed within the clinic.

10. Clinic Daily Appointment Schedule. Form indicating clinic's schedule for a given day. A separate form is used for each physician and contains his/her schedule for a particular day.
11. Clinic Follow-up Suspense File. Card file maintained in the clinic containing patient identification and problem data. Checked regularly to insure the provision of needed follow-up care in the required period of time following creation of the card.
12. Clinic Information File. General file maintained in clinic with various types of pertinent data filed by category. Examples of categories might be workload data files.
13. Clinic Loose Elements File. File used to temporarily hold all lab, consult, and other results which have been returned to the clinic until a physician is able to review them prior to placement in a patient's record.
14. Clinic Missing Record List. A list of patient names sent by a clinic to the record room indicating appointed patients whose records have not yet arrived at the clinic. This list is sent to PAD some time prior to the patient's scheduled arrival.
15. Clinic Order Suspense List. File maintained in the clinic as a double-check against CP orders. File is checked regularly to insure that either all orders have been carried out or that proper follow-up action is initiated.
16. Clinic Patient Record File. File which holds patient records of clinic patients. This is a temporary storage and is used only for records needed for appointments or follow-up within three days.
17. Clinic Record Finalization Suspense File. Clinic file whose records indicate a need for finalization of a patient's record as it pertains to a particular resolved problem. Finalization includes a narrative summary of diagnosis and care, placement of the problem on the inactive list, and return of the record to the record room.
18. Consult Form. Form used to request consultation by a specialist with a particular patient.
19. Data Collection Form. Any form used to collect data of a demographic or statistical nature. The term does not imply that any form is currently in existence. Form must be created to fit the collection requirement.
20. Encounter Form. Form used to list patient problems, care plan (including medications and tests ordered), and CP notes. One such form is used for each patient arrival in the clinic.

21. Inactive Problem List. List of past patient problems which have been resolved and are not of a chronic nature. Kept in the patient record.

22. Obligation Form. Form used by patient claiming eligibility for treatment who is not able to prove eligibility at time of need. Signature of form obligates patient to pay for care if eligibility cannot subsequently be demonstrated.

23. Patient Record. Folder containing all available information pertaining to a patient's current and past medical condition. Total record includes medical and radiology components.

24. Pre-admission Forms. Generally the same as admission forms, except for the time when they are prepared. Pre-admission is generally done at the time of recognition of the need to admit an elective patient at some future time.

25. Record Request. Form used by health care activities in the MTF to request retrieval and transport of particular patient records from the record room. Used mainly in cases where patient arrives for care/admission without a prior appointment.

26. Registration Forms. Used by PAD to collect identification and demographic data on all inpatients (or inpatient candidates). Also contains data relative to location of outpatient records, status of MTRC, patient's primary MTF, etc.

27. Triage Form. Sheet used by clinic triager to note patient complaint, condition, treatment plan, and disposition.

Dental Files, Records, and Forms

1. Consolidated Inventory Worksheet. Sheet used to consolidate tray requirements for ordering/tray preparation purposes (see tray inventory worksheet).

2. Duplicate Record. Record created during annual records retirement cycle when special treatment category patient's records become due for retirement. Original record is retired, duplicate copy with X-rays is maintained in the clinic.

3. History Hold File. File used to collect historical data of possible future worth in research, statistical studies, etc.

4. Patient Dental Record. Part of the patient record, although maintained separately within the dental clinic. Contains all data pertaining to the patient's current and past dental history.

5. Patient Work Trace Card. Card used to maintain status of work progress for prosthetic devices being constructed. Is an audit trail to facilitate location of the device should it become delayed in production.

6. Record Chargeout Card. Sheet inserted in a record slot when the record it replaces is pulled for use, especially outside the record storage area. Contains identification data and location of record.

7. Signature Card. Card filed in the dental clinic and signed by patients who remove their records from the MTF, especially for permanent removals. Record sign-outs for use within the MTF are accomplished on the record chargeout card.

8. Statistic Notes. Data collected during statistical analyses of dental records.

9. Suspense Alpha File. File used to hold, on a short term basis, all loose lab, consult, and other results which are returned to the dental clinic and for which no record is immediately available. Items are filed alphabetically by patient name.

10. Tray Inventory Worksheet. Sheet used during dental pre-appointment activities to tally instrument and supply needs for next day's appointments.

11. Tray Order Worksheet. Sheet used by dental clinic personnel to establish final tray needs. Based on consolidated tray inventory worksheet and available tray supplies, the tray order worksheet is used by the clinic log tech to order trays from central materiel supply.

12. X-ray. Generally, a radiological picture of a portion of the human body. Here associated primarily with dental-related physiology.

13. X-ray Order. An order signed by a dental CP requesting that dental X-rays of the indicated patient be taken.

14. Work-in-Progress File. File containing Patient Work Tracer Cards.

DEFINITIONS OF ABBREVIATIONS AND TERMS

The following are definitions of abbreviations and terms found throughout the Clinics flowcharts:

A&D - Admissions and Dispositions. Generally used to refer to the office within the medical treatment facility (MTF) which is responsible for patient admissions and discharges, and their related administration.

Admission. The process of placing an individual under treatment or observation as an inpatient in an MTF and assuming medical responsibility for an individual who is either hospitalized in a non-federal hospital or VA hospital, or placed "on quarters."

Admitting Physician. The physician with designated admitting privileges who arranges for the admission, pre-admission, or transfer of the patient to the hospital.

Care Provider (CP). An individual who delivers services of a clinical nature directly to the patient--may be a physician, nurse, clinical dietitian, chaplain, LPN (Licensed Practical Nurse), etc. Does not include persons acting in administrative support roles, (e.g., unit manager). Does not identify level of profession.

Clinic. A health treatment facility primarily intended, and appropriately staffed and equipped, to provide emergency treatment and outpatient services. A clinic is also intended to perform certain preventive medicine activities related to the health of the personnel served, such as physical examinations and immunizations. A clinic may be equipped with beds for observation of patients awaiting transfer to a hospital, or for short-term observation of patients following some kind of treatment.

Clinic/CP Schedule. Generally, an array of times in which the CP is in the clinic showing his specific availability, by time, for patient encounters of various types. Clinics and CP's, in the PAS subsystem, are said to have "schedules" in which various patient appointments can occur. In a more restricted sense, "schedule" refers to a printed or displayed schedule (as defined above) which indicates at a glance the types and availabilities of the appointment slots comprising it, but does not indicate which patients have been appointed to the filled slots. The term "scheduling" as used in PAS, refers primarily to the bookkeeping of each CP's schedule and availability.

Clinical Summary. A defined set of data elements providing a concise outline of the patient's problems and treatment of same. Other

terms which have been used are "mini-record" and "minimal patient data base." The elements of the Clinical Summary are:

	<u>Ward</u>	<u>Differences*</u>	<u>Clinic</u>
<u>Patient Identification</u> (PTID)			
Age, Sex, Religion, Race			
Rank-Category			
*Patient Location	Ward, Room, Bed	Tel No., Address (Home, Work)	
*Primary Physician	Ward Physician	Physician, Location	
*Primary Nurse	Ward Nurse	Nurse Clinician, Location (if applicable)	
Problem Lists			
Current Medications			
Reactive Agents, Adverse Reactions			
Medical Alert Message			
Special Instructions			
Height-Weight/Date			
Blood Type			
Surgical History			
Obstetrical History			
Test Results Profile			
Last Contact(s) with System			
Clinical Flow Sheet			

Consultation. The process of requesting a specialist's opinion regarding a patient's problem.

Disposition. The termination of an individual's admission to an MTF (See definition of Admission). Can also refer to the completion of all or some major part of a treatment plan for a clinic patient.

Logistics Technician (Log Tech). An individual assigned to a specific area of coverage (one or more nursing units or clinics) who is directly responsible for maintaining supply stockage levels for the unit, for stocking nurse servers as required, and for obtaining non-standard supplies and equipment at the request of the CP.

MEB (Medical Evaluation Board). A medical committee used to assist in determining the medical fitness of an active duty Service member. The MEB members are appointed by the MTF commander to consider each individual case where Board action is required by regulation, as well as any cases where Board action is necessary due to the problematical or controversial nature of an individual's condition.

Medical Outprocessing Clerk. A person skilled in the analysis and transcription of medical records. This person generally is responsible for review and update of a patient's record after a patient encounter in a clinic.

MRT (Medical Record Technician). A person skilled in the analysis and transcription of medical records. The MRT is responsible for the clinical record while it is on the ward.

MTF (Medical Treatment Facility). Any physical complex wherein professional health care is rendered, either on an inpatient and/or an outpatient basis.

MTRC/MITRC (Medical Treatment Recording Card/Medical Inpatient Treatment Recording Card). These are standard credit-card-size cards--plastic, embossed, and machine-readable--which contain patient identifying information.

Order - A formal request for a service. Patient orders may be classified as to:

1) ORIGIN:

Primary - An order whose execution is not specified to be conditional to the execution of another order.

Secondary - An order whose execution is specified to be conditional to the execution of another order.

2) PRIORITY:

STAT - (Abbrev of Latin STATIM meaning immediately). An order whose execution is time-critical and which may invoke a special mode of execution.

Routine - An order which is executed through normal procedures.

3) STATUS:

Current - An order which is in effect.

Outstanding - An order whose execution is in process (for which no result has been received).

Suspense - An order for which a file entry is created upon order entry and not deleted until a specified event occurs.

Old - An order whose execution has been completed (and confirmed if a suspense order) or cancelled.

Delinquent - An order whose execution step(s) has(have) not been confirmed within a pre-defined period of time after the ordered time.

4) TYPE:

A (traditional) classification for orders to identify to which activity and/or service the order is directed, e.g., laboratory order, diet order, etc.

Ordering. The process of requesting an action to be performed.

PAD (Patient Administration). The function of PAD is to provide patient administrative services for the hospital and to act as custodian of all medical and clinical records of inpatients and outpatients. This includes: administratively admitting and discharging patients, and receiving, reviewing, maintaining, storing, and disposition of medical records.

PAS (Patient Appointments and Scheduling Subsystem). The subsystem of the Health Care Delivery System which supports patient appointments, clinic/CP schedules, dental, and operating room scheduling. This system is ADP-supported and has no specific geographic bounds, being composed of a centralized telephonic appointment service as well as decentralized appointment sites, such as clinic outprocessing areas.

PTID (Patient Identification). The data necessary to provide unique patient identification and the common linkage between the various automated and manual data files forming the basis for an integrated patient data base system. It consists of patient's name, sponsor's Social Security Number, patient's family member prefix, and patient's date of birth.

Pre-admission. Collecting appropriate admission data before admission actually occurs. Performed for elective cases where immediate hospitalization is not required, it is identical to Admission except that hard-copy admission documentation is maintained in a suspense file until actual admission.

Problem-oriented Medical Record. A medical record which includes a problem list and in which the CP's notes are organized according to the listed problems. A problem is any condition which may adversely affect or reflect the patient's health. Problems may be: 1) diagnoses, 2) physiologic findings, 3) symptoms or physical findings, 4) abnormal laboratory findings, 5) health maintenance, and 6) psychosocial conditions relevant to one of the preceding categories.

Requisition/Request Form - An order document. For example, laboratory test requisitions have the following elements:

- 1) PTID
- 2) Test specification - usually only one test or several closely related tests (e.g., blood hematology tests) can be ordered per requisition. Hence, requisitions are usually test specific.
- 3) Source of specimen (e.g., blood, urine), if not implied by 2.
- 4) Date and time of specimen collection.
- 5) Ordering clinic or ward.
- 6) Ordering CP.
- 7) Date of order.
- 8) Frequently, additional test specific data needed for interpretation (e.g., age, sex).
- 9) Space for result reporting.

As the above implies, a requisition can serve not only to communicate an order but also to report results.

SI (Seriously Ill). When a patient's illness is of such severity that there is cause for immediate concern although there is no imminent danger to life.

Standard Order Set. A defined set of orders which are frequently entered simultaneously, but with only minor variations, and which have therefore been grouped together for convenience of entry. Examples of this grouping are:

- 1) Admission orders (e.g., obstetrical, coronary care, etc.).
- 2) Procedure-related orders (e.g., pre-operative, post-operative), with breakdowns by procedure categories.

Test Results Profile. A defined set of laboratory, X-ray, and EKG (electrocardiogram) reports providing a concise summary of the patient's test results data base. The set may be defined by any or all of the following mechanisms:

- 1) The most current results for a defined set of tests, (e.g., complete blood count, urinalysis, SMA 12, chest X-ray, EKG).

- 2) Results from previous encounters with the option of obtaining only the most recent results.
- 3) Results of tests uniquely specified for a patient.

One use of the Test Results Profile is in the Clinical Summary.

Unit Administrator. Individual charged with responsibility for all administrative, personnel, and logistical functions of each individual ward and clinic. In the military environment, the unit administrator is responsible basically for all non-direct patient-care functions of his unit. He is responsible for all unit equipment, hires, trains, supervises, and schedules all non-professional personnel, handles local patient administration, and participates in the overall budgetary process for funds for his unit.

Unit Dose Distribution. Drug distribution system in which each drug order is sent to the pharmacy. The pharmacy maintains a patient's medication profile. Periodically, medications are delivered to the wards in a cart (or in cassettes which are made to fit into a cart). Each drawer in the cart will contain medication for one patient. The pharmacy places enough medication in each patient drawer to meet the requirements for active orders between cart exchange times. Each medication (including injectables) is dispensed in a single well-labeled medication package which contains a single dose in ready-to-administer form.

Unit Medical Clerk. A trained person located on the ward/clinic/ancillary service who is responsible for all intra-hospital communications to and from that unit.

VSI (Very Seriously Ill). When a patient's illness is of such severity that his life is in imminent danger.

Walk-in Patient. Any non-appointed patient who presents himself for care at the MTF.

- - -

SPECIFIC FLOWCHART COMMENTARY

Explanation of possible ambiguities or areas of misunderstanding within the Clinics Subsystem flowcharts are listed below by process:

a. Clinic Patient Encounter

This sheet is simply an overview of the entire clinic operation and depicts the general flow of outpatient treatment processes, except for the "Emergency Process."

The Emergency Process, also mentioned elsewhere in the Clinics flowcharts, is difficult to define and chart since different patient emergencies signal different treatment methods. Thus, Emergency Process as used here generally entails only a concerted effort on the part of the receptionist or other nearby personnel to get prompt medical care for the emergent patient, and to give supportive care as appropriate until professional care providers arrive to treat the condition.

b. Clinic Reception Process

The Emergency Process is explained in paragraph a, above.

The block "Patient Telephones for Clinic Appointment" deserves some explanation. Much effort has been expended in the Clinics modeling effort at WRAMC to reduce walk-in patients. The process has been largely a matter of patient education and the instilling of patient trust in a central appointment scheduling system which could be reasonably responsive to their needs. The block mentioned above allows patients to be appointed via interaction with the Clinic receptionist, even though such action is to be officially discouraged whenever possible. Thus, Clinics who wish to maintain some control over their appointment schedules are able to do so, and the patient who calls the hospital from a long distance needn't place additional calls to obtain an appointment.

By the same token, the walk-in patient who wishes to return later the same day for his encounter (bottom center of Sheet 1/3) can be added locally to the schedule, as PAS central appointment processing is completed before the current day's operations in the Clinic.

Record management in the context of Note 3.2 at the bottom of Sheet 3/3 implies control of the record, accurate tracing of its location at all times, prompt filing of test results and other pertinent papers, and appropriate disposition of the record when the record no longer needs to remain within the clinic.

c. Clinic Appointed Patient Check

The circle entitled "Notify Provider (If Possible)" at the left bottom of the sheet implies an informal conference with the care provider to notify him/her of the patient's presence in the clinic in case the provider desires to become involved in correction of the scheduling conflict. At this point, he/she may well decide to treat the patient as a walk-in, adjust his own schedule to accommodate the patient as soon as possible, or ask for reappointment of the patient at some later time or date.

d. Record Exit Process

At the point where "Record Not Required No Other Appointments" connects to "Record To Be Held (Temporarily) in Clinic", it must be remembered that the record must be finalized before it is sent back to the record room. Thus, the temporary storage in the clinic files at that point.

e. Clinic Triage Process

The triage algorithm referenced on this sheet is a comprehensive set of decision tables developed by physicians for use by paramedical personnel. Given certain patient symptoms, the tables assist the triager in determining a tentative assessment of the problem and dictate certain treatment or diagnostic procedures to be followed once that determination has been made.

f. Clinic Admission Process

The ward/team mentioned in a number of places on sheet 2/5 does not imply that A&D assigns physician/nursing teams to specific patients. A&D is tasked to keep a running account of physicians and nursing teams who are available for assignment of new admissions. This information is passed to the clinic care provider to use in direct coordination with the ward officer in arranging admissions. The philosophy behind PAD's keeping of this information is that no patient will be approved for admission until an inpatient care provider (or, at least, subspecialty service) has been alerted to the new arrival, and the information is useful to the admitting care provider in making the admission as smooth as possible.

g. No Shows Process

Implicit in the care provider's attempts to contact No-Show patients, when he deems it necessary, is a further try to impress upon the patient the need for the appointment and an attempt to reappoint the patient at a time convenient for himself and appropriate for his condition. Needless to say, clinic workload and the severity of the

patient's condition will determine the amount of effort placed upon this process by the care provider.

h. Appointed Patient Record Pull List

The record room generally pulls records and delivers them to the clinic no less than one day prior to the appointment day. The PAS system generates individual record pull documents (referred to as appointment slips in this chart) which the record room uses as a basis for pulling a particular day's records. If the record is found in the record room, the pull document is used as a chargeout card and placed in the record's slot when the record is removed. In cases where records are not found, the pull document is so annotated and forwarded to the clinic as noted on the chart.

The block "Location Noted on Appointment Slip or Location Known" also includes the possibility that the record is in the clinic's own files, though presumably that fact would be noted on the appointment slip when it arrives at the clinic.

The Record Request form is used only as a last resort. When all attempts to find a "missing" record have been exhausted, the clinic sends this form to the record room. The record room creates a new record for the patient, sending it to the clinic if, as noted on the chart, it can reach the clinic in time for the patient appointment.

i. Dental Preappointment Activity

The block ordering for trays referenced on sheet 1/2 is commonly used where tray set-ups are standard for all operations. Areas such as oral hygiene, examination, etc., utilize the same type instrument set-up for all appointments. On the other hand, oral surgery or periodontics use different trays for different procedures and thus fall into the left-hand path on the flowchart.

j. Dental Facility Record Room

As dental records are rarely if ever removed from the dental clinic proper except when patients move to another geographical area and will receive care elsewhere, it follows that no concentrated attempt is made to find "missing" records as on sheet 1/6. The record should be somewhere within the facility unless it has been taken out without the proper signature, and it is assumed that "missing" records will find their way back to the files eventually. Thus, it follows that the only time a search is instituted (sheet 3/6) is when a patient is leaving and desires to remove his record from the clinic permanently.

Because of current Department of the Army patient administrative policies regarding medical records, active duty military personnel always

carry their outpatient medical and dental records with them when they move to a new assignment. Copies of these records may be made for historical purposes if necessary, but, by and large, the patients who are significantly interesting cases are not active duty military personnel. Thus, the facility will want to keep copies of any of these records which are removed from the facility.

Current policy regarding transportation of dependent health records is as follows:

- a. No inpatient records will be handcarried. Care providers at other locations who need information from these records may correspond with the Patient Administration Division of the appropriate MTF.
- b. Records of minor dependents may be carried by their parents.
- c. Records of non-minor dependents may be carried only by the patient unless written permission has been given by the patient to allow the military member to carry the records.

CONDITION-ACTION
DIAGRAM INTERPRETATION GUIDE

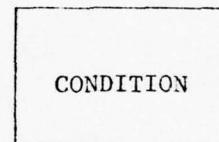
1. ACTION

When an action circle is encountered, the specified action, procedure, function, or process is to be performed as noted. An action is performed and never has a truth (true or false) value.



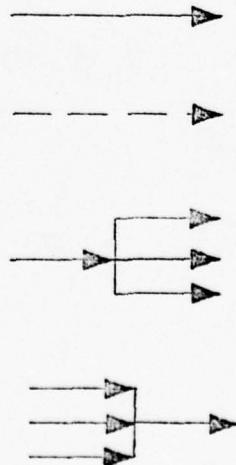
2. CONDITION

When a condition box is encountered, the specified condition is to be evaluated. If it holds true or succeeds, the following blocks on the diagram are to be executed. If the condition does not hold, then flow along this path of the diagram stops. The flow may, as appropriate, either be blocked permanently or may merely wait at the box pending the successful evaluation of the condition at some later time. A condition always has a truth (true or false) value.



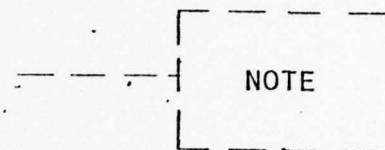
3. FLOWLINES

Flow proceeds through the diagram along the flowlines. When a flowline splits into multiple lines, all the lines must be followed (perhaps at once). If only one is intended, condition boxes will be used to select the proper line. When flowlines join or reconsolidate into a single line, that line is to be followed regardless of the number of joining lines that were active. Thus, there is no waiting at a junction. Control, execution, or interpretation of the diagram is shown by solid flowlines. Data and information are usually assumed to accompany control; but, where necessary for clarity, it is shown by "dash" lines, regardless of media.



4. NOTE

Clarifying notes, comments, remarks, and other annotations, including references to additional documentation, are enclosed in "dash" note boxes and are connected to the annotated structure by "dash" lines.



NOTE

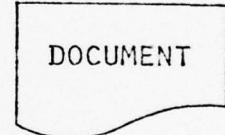
5. STORAGE

A triangular storage block indicates storage of information or data regardless of the medium of storage. Thus, only "dash" data flow lines--not solid control lines--will connect to storage blocks.



6. DOCUMENT

A document symbol represents information or data, regardless of media. (It may or may not physically reside on a document). It is used only for clarity, as information such as that contained in the "document" is assumed to be always present along with the control flow. Like the storage symbol, only "dash" data lines may connect to a document symbol.



7. CONNECTOR

A connector circle specifies that the flow continues on another page. An out-connector contains a number (which is the sheet number at which the flow is continued) and a letter (which specifies which in-connector on that sheet is being referenced). The in-connector contains the matching number/letter code. Adjacent to the connectors is a notation as to the sheet and process to, or from, which the connectors refer.



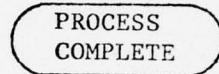
8.. PROCESS

A striped process circle indicates a process to be performed. It is analogous to a high-level or meta-action. The process referenced will be diagramed in its own set of condition-action flowcharts which are included in the same packet of flowcharts for reference. After the process is performed, flow resumes.



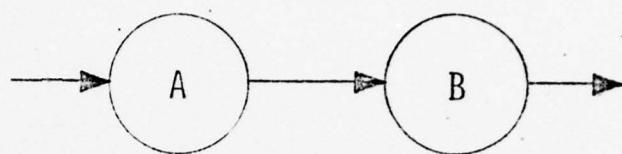
9. TERMINATOR

The oblong terminator symbol indicates that the current process or sub-process is complete. Normally, upon completion of a process, control returns to the process which invoked it and resumes where it left off in that process.

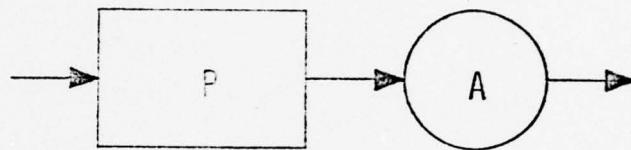


CONDITION-ACTION
EXAMPLES

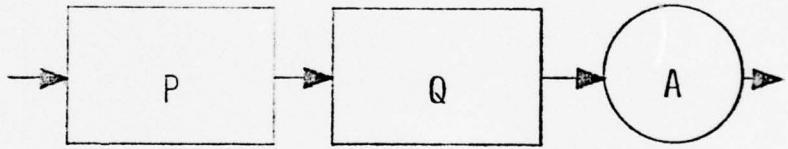
Perform Action A first,
then in sequence,
perform B.



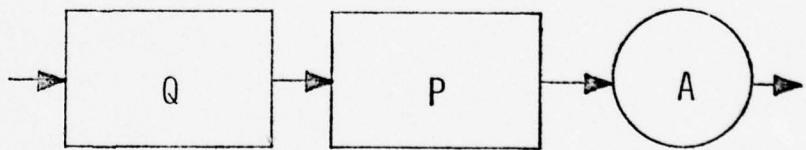
If Condition P holds true,
then perform Action A. If
P does not hold, do not
perform A.



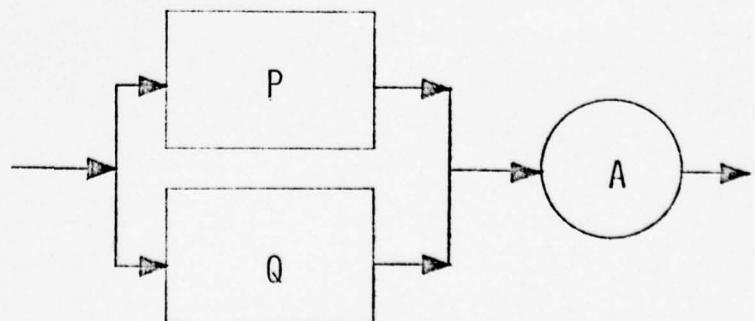
If both Condition P and
Condition Q hold true,
then perform A. If either
one does not hold, then
do not perform A.



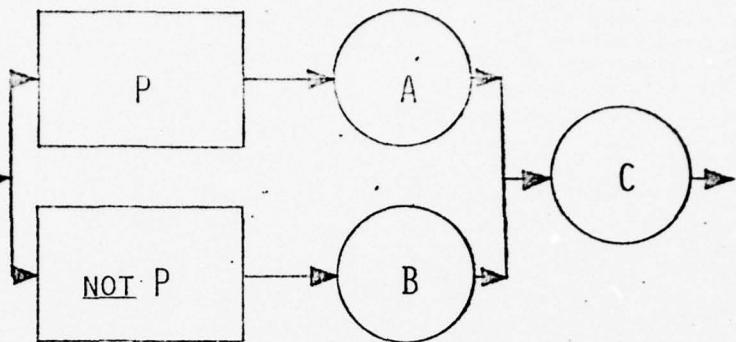
Same function and same net
result as above, but
evaluated in a different
sequence.



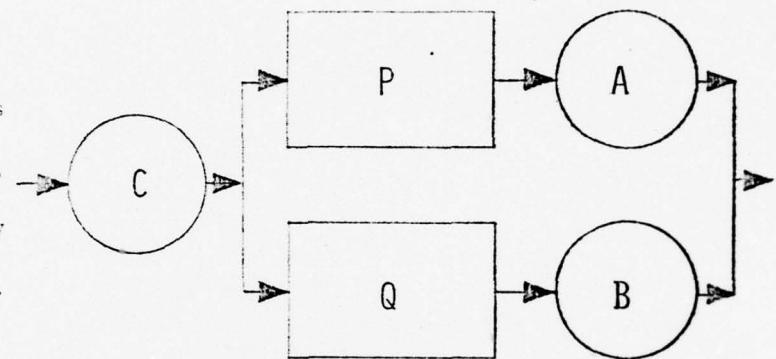
If either Condition P or
Condition Q holds true
(or both), then perform A.
If neither holds true,
then do not perform A.



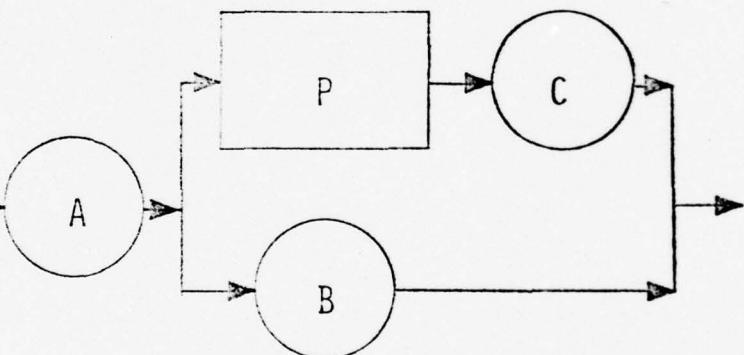
If Condition P holds true, then perform Action A, but not B. If P does not hold, then perform B, but not A. In any case, when done, perform C.



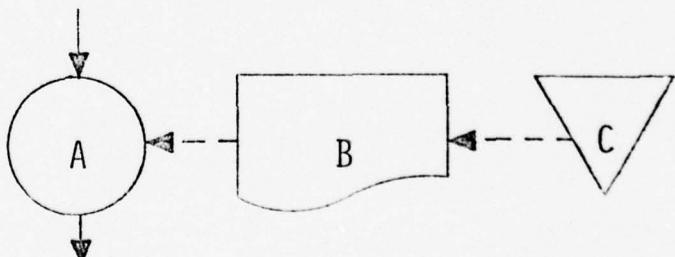
First perform Action C. Then, if Condition P holds true, perform Action A. If Condition Q holds true, then perform Action B. Note that both P and Q may hold, in which case both A and B will be performed.



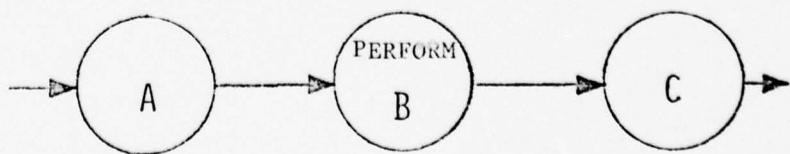
First perform Action A, then (in all cases) perform Action B. Additionally, if Condition P holds true, then perform Action C (perhaps at the same time as Action B).

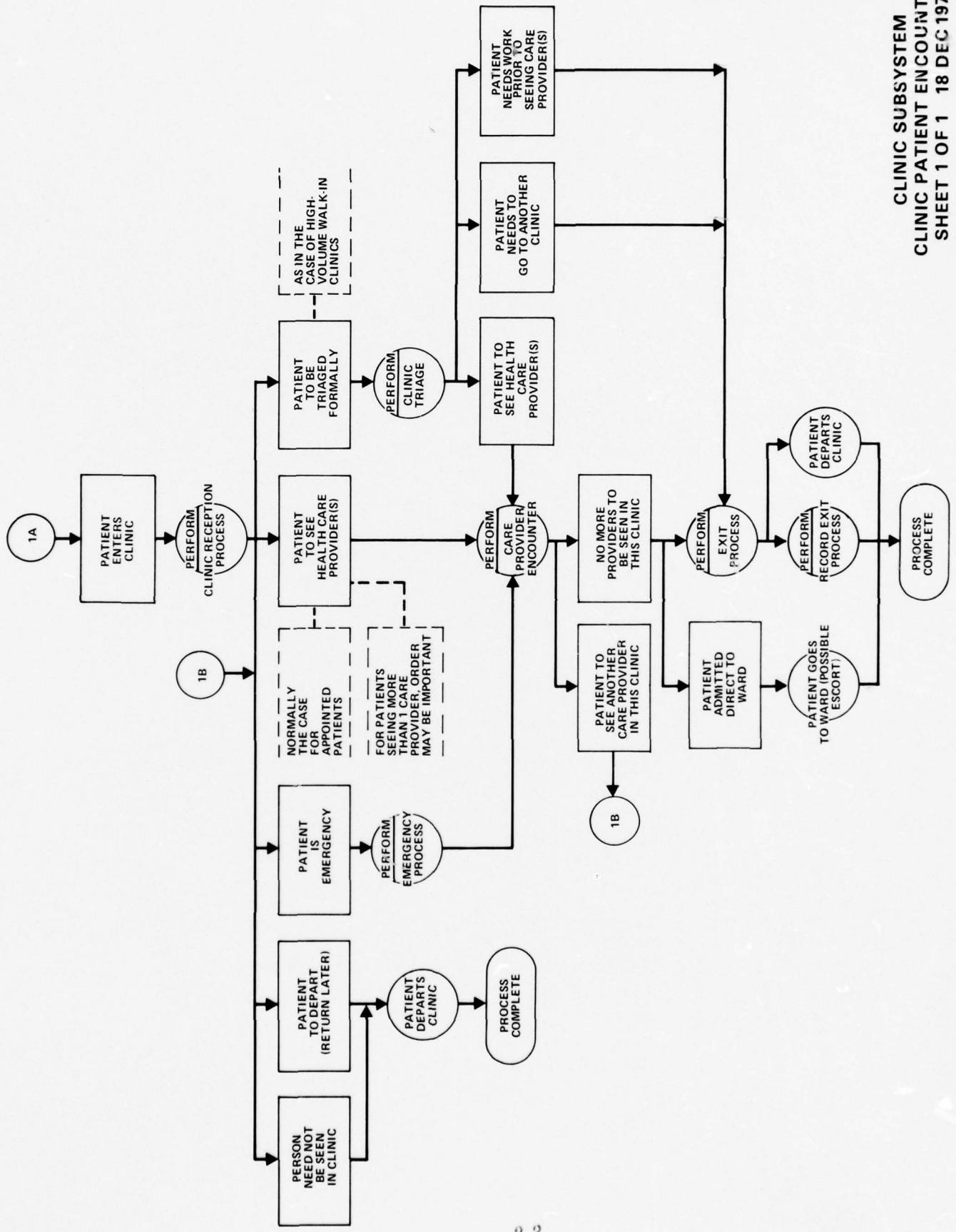


Perform Action A, utilizing information contained on the document B which was retrieved from the File C.

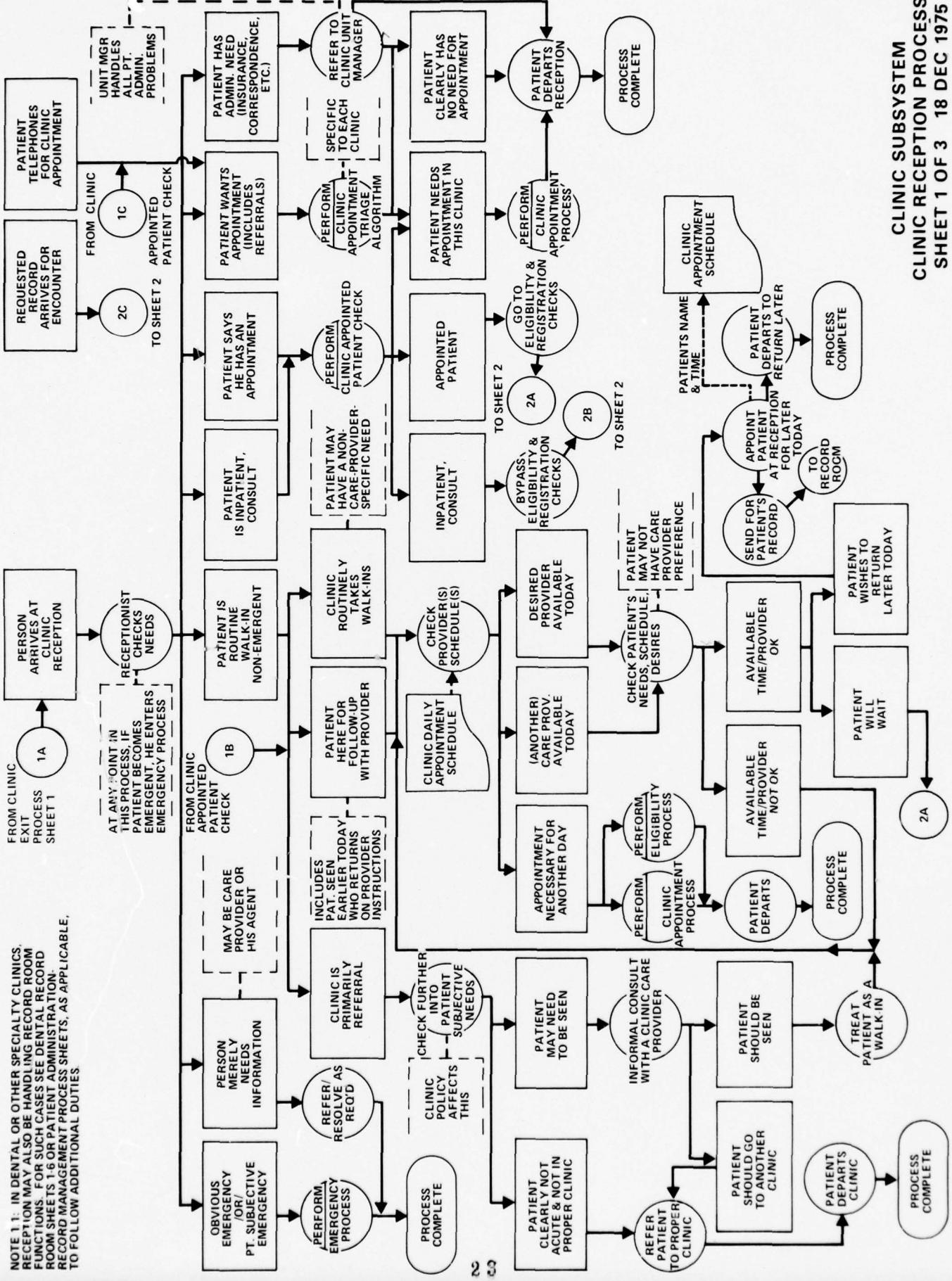


First perform Action A. Then perform Process B, which is itself flowcharted elsewhere in this set of charts. After B is completed, return to here and perform Action C.

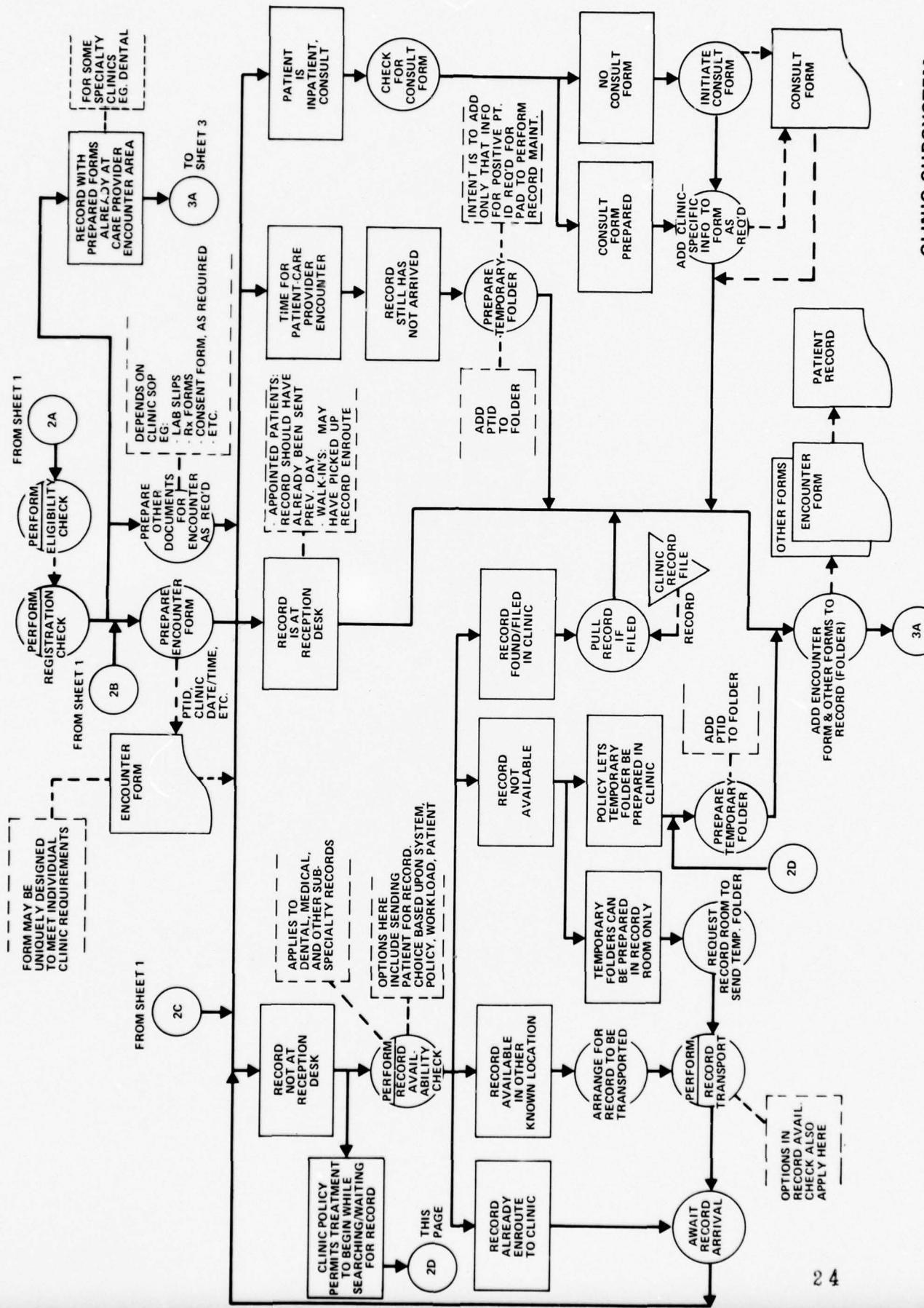




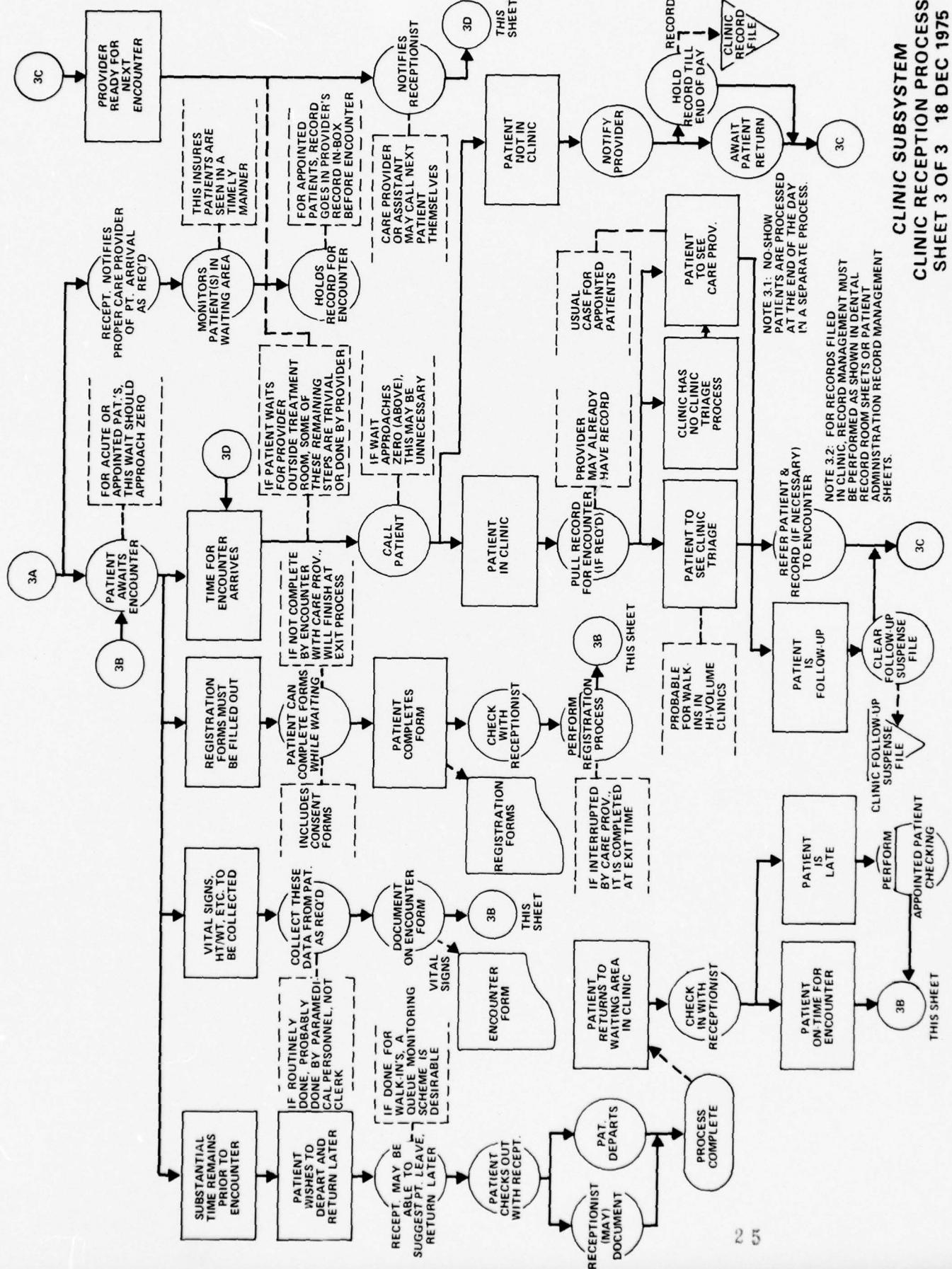
NOTE 1-1: IN DENTAL OR OTHER SPECIALTY CLINICS,
RECEPTION MAY ALSO BE HANDLING RECORD ROOM
FUNCTIONS. FOR SUCH CASES SEE DENTAL RECORD
ROOM SHEETS 1-6 OR PATIENT ADMINISTRATION
RECORD MANAGEMENT PROCESS SHEETS, AS APPLICABLE,
TO FOLLOW ADDITIONAL DUTIES.



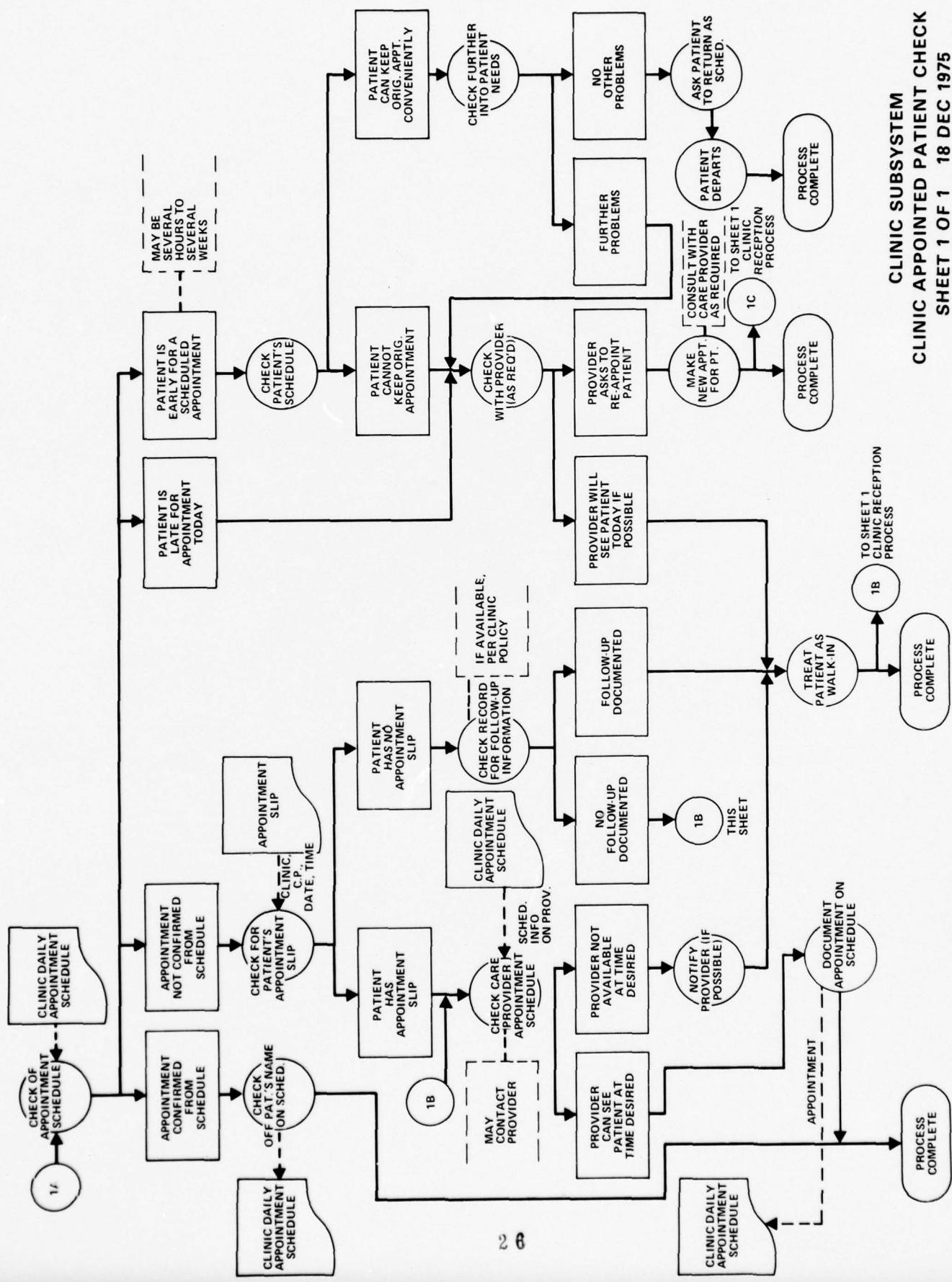
CLINIC SUBSYSTEM
CLINIC RECEPTION PROCESS
SHEET 1 OF 3 18 DEC 1975

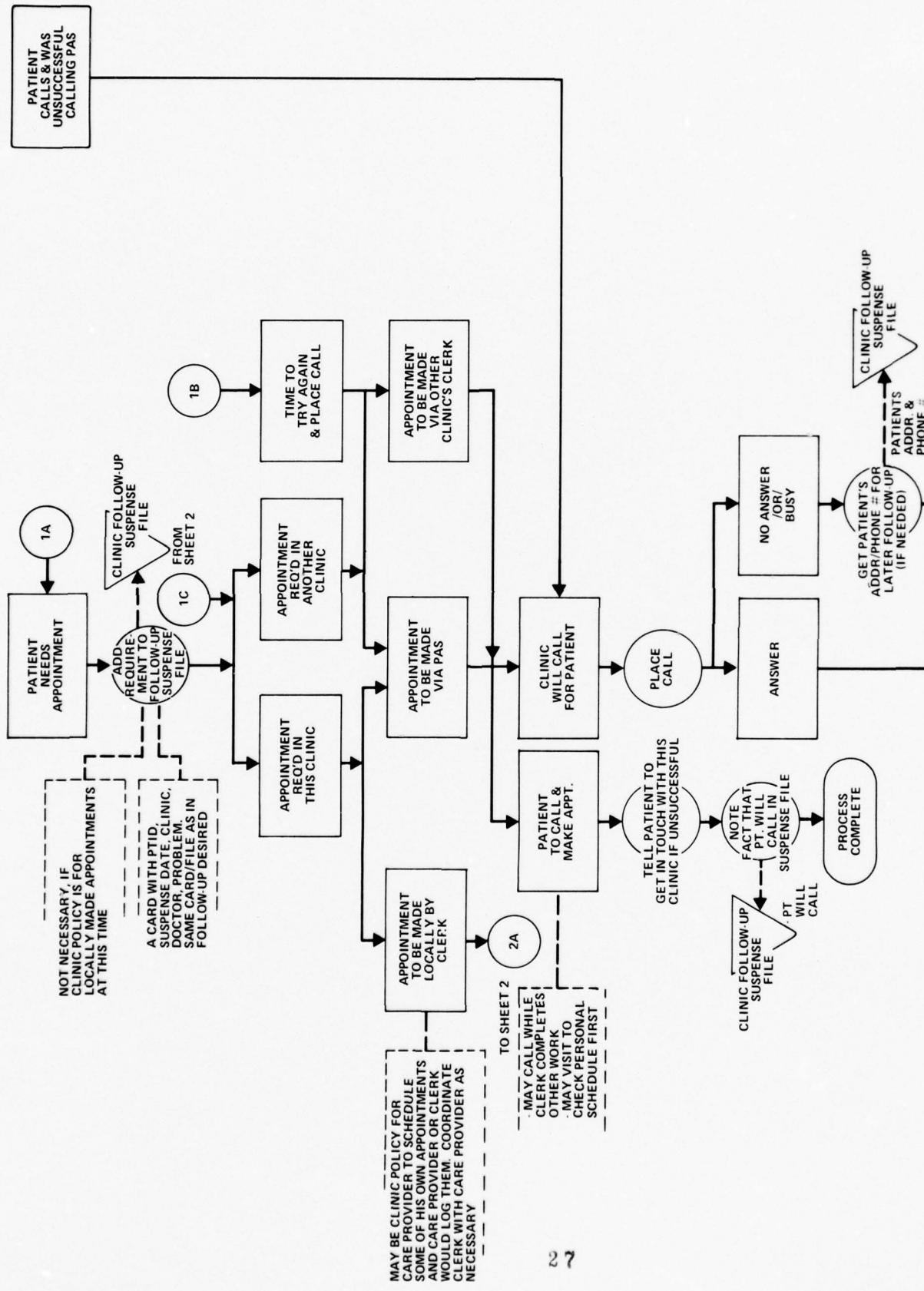


CLINIC SUBSYSTEM
CLINIC RECEPTION PROCESS
SHEET 2 OF 3 18 DEC 1975



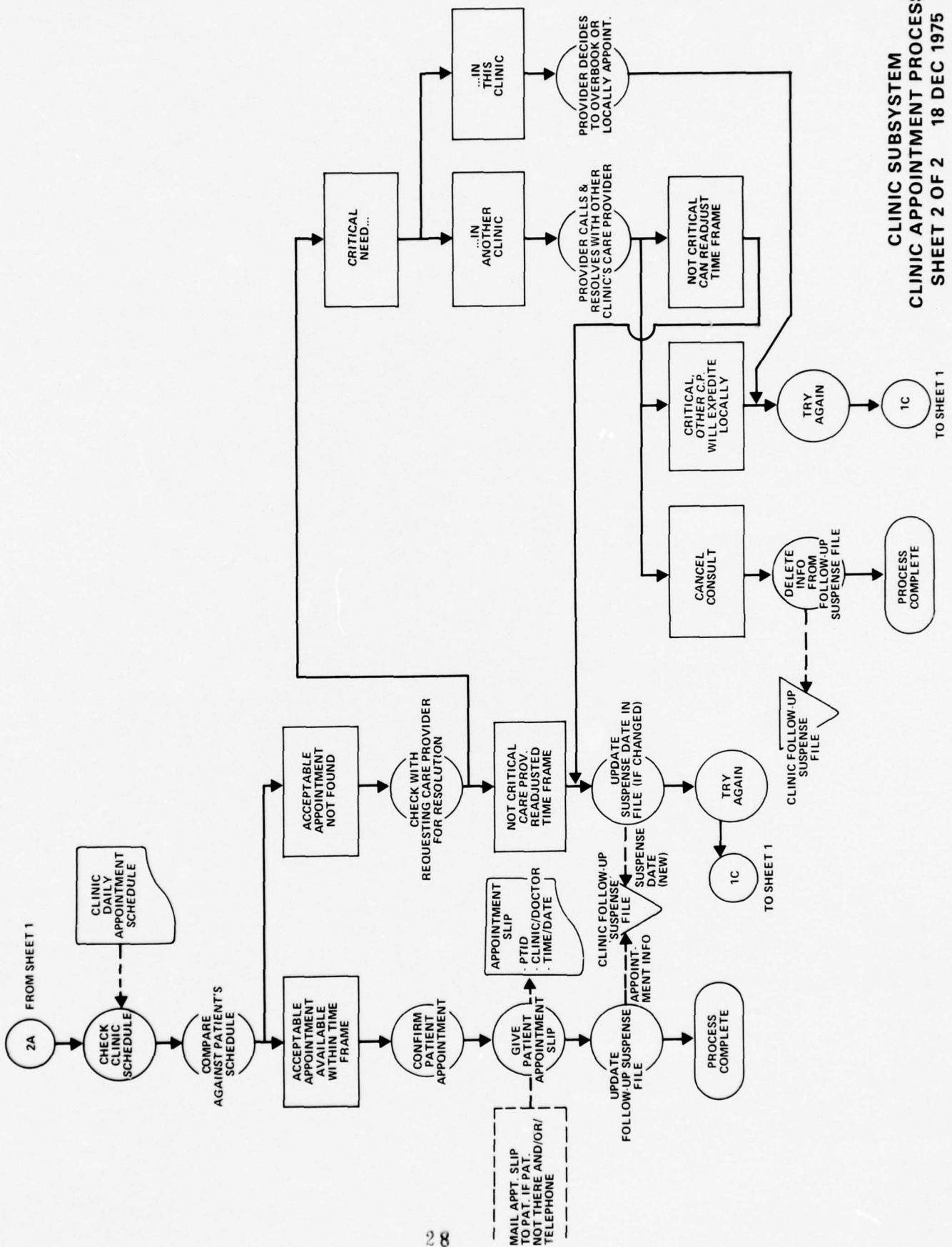
CLINIC SUBSYSTEM
CLINIC RECEPTION PROCESS
SHEET 3 OF 3 18 DEC 1975

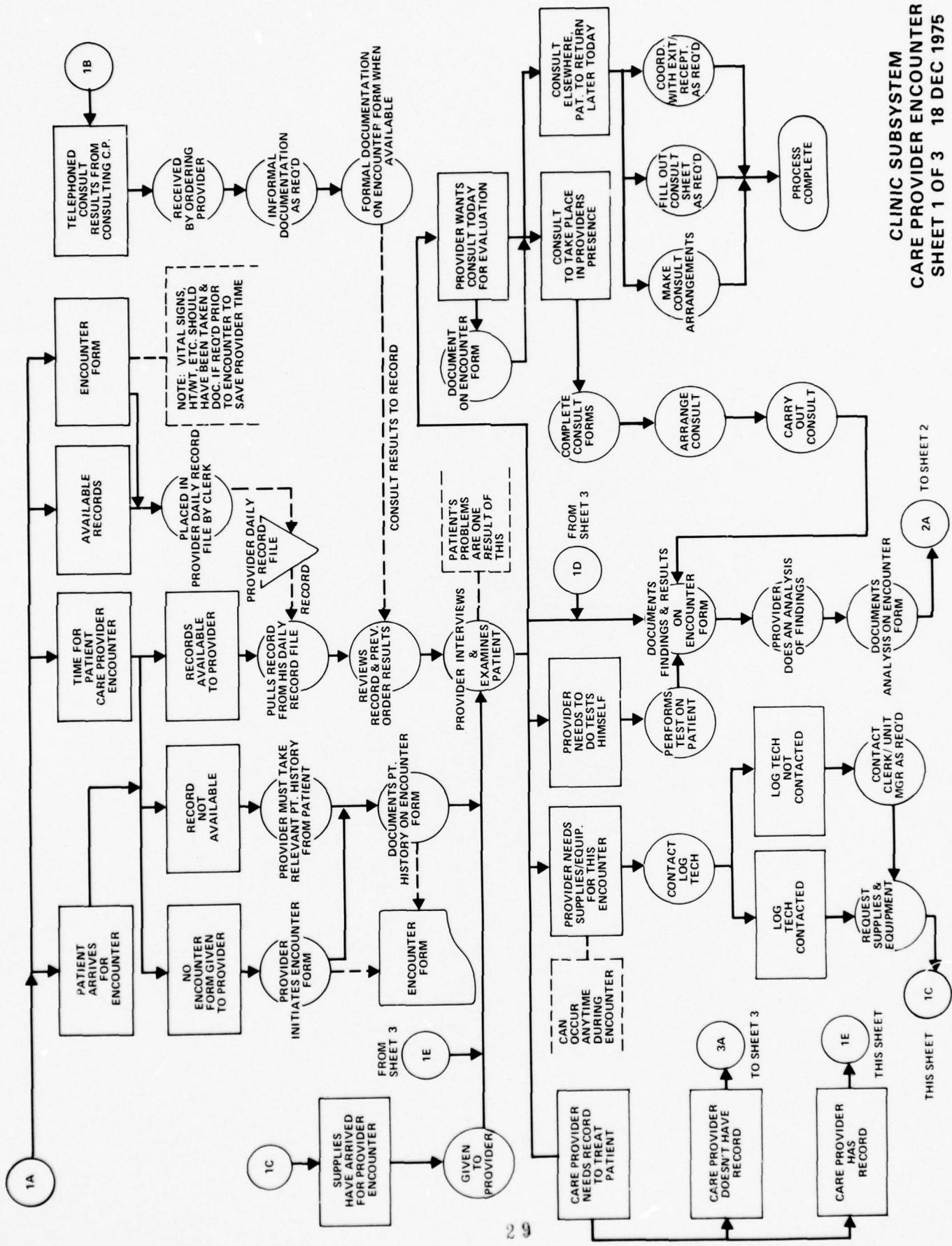


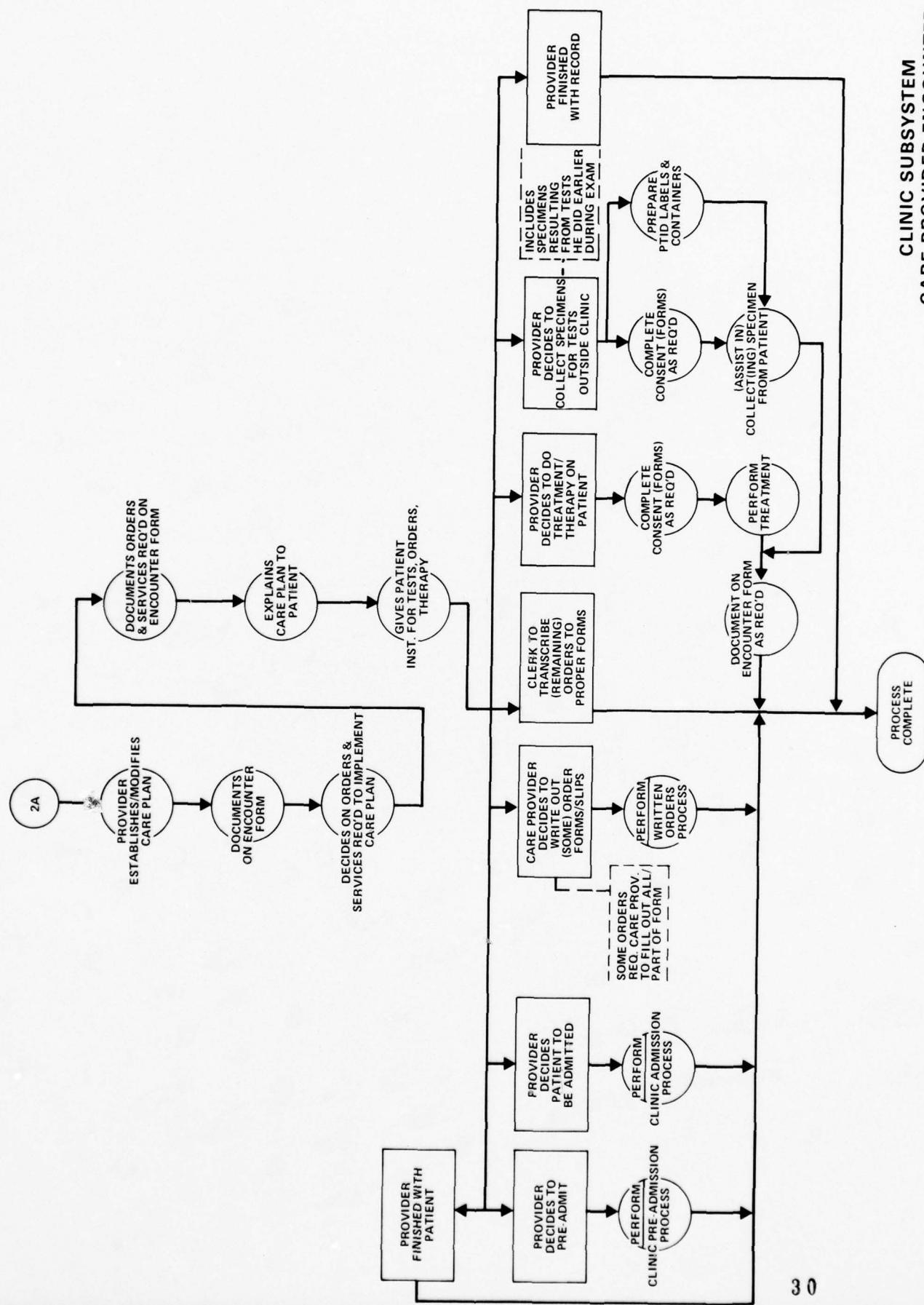


CLINIC SUBSYSTEM
CLINIC APPOINTMENT PROCESS
SHEET 1 OF 2 18 DEC 1975

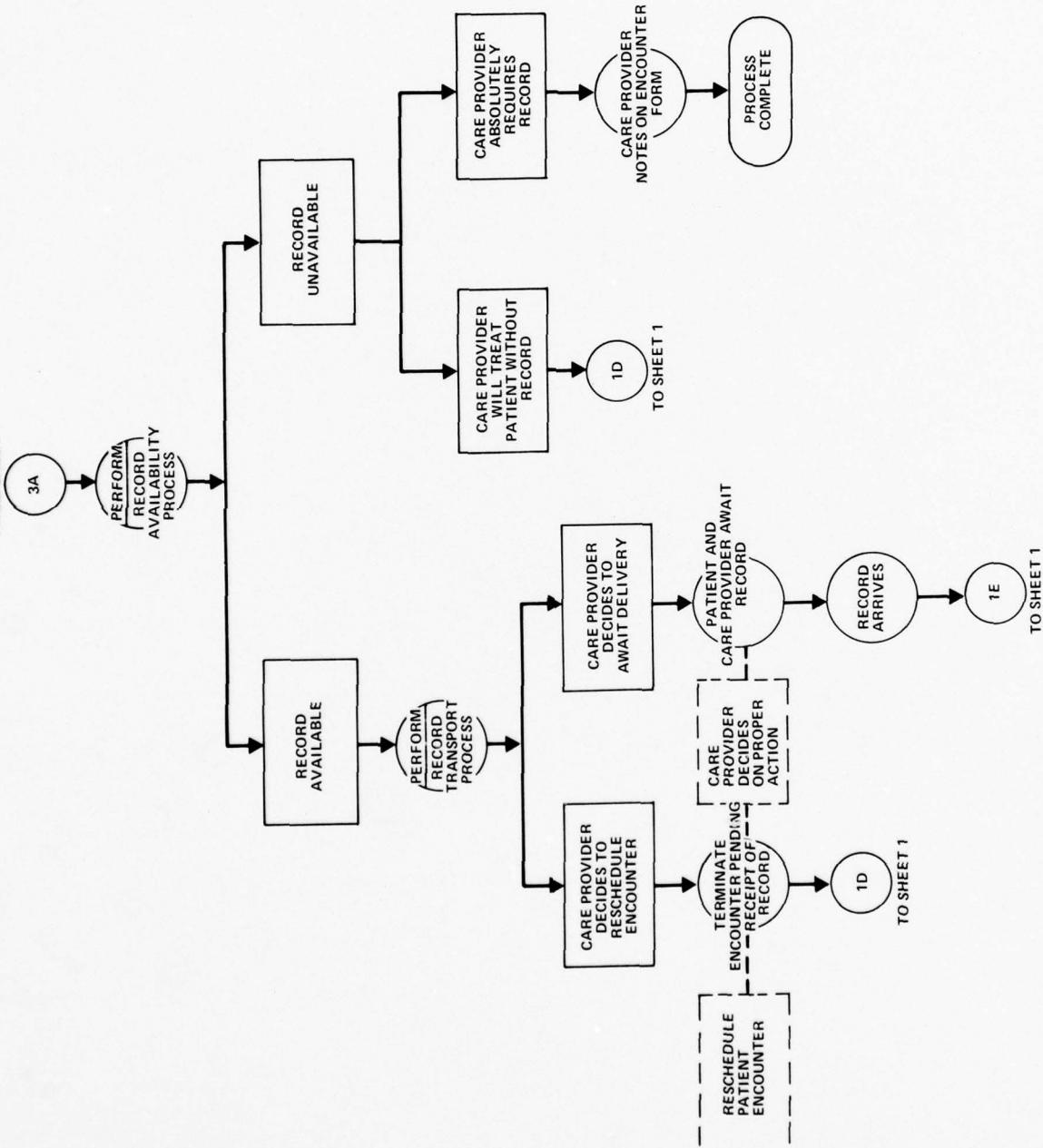
THIS SHEET 2 TO SHEET 2

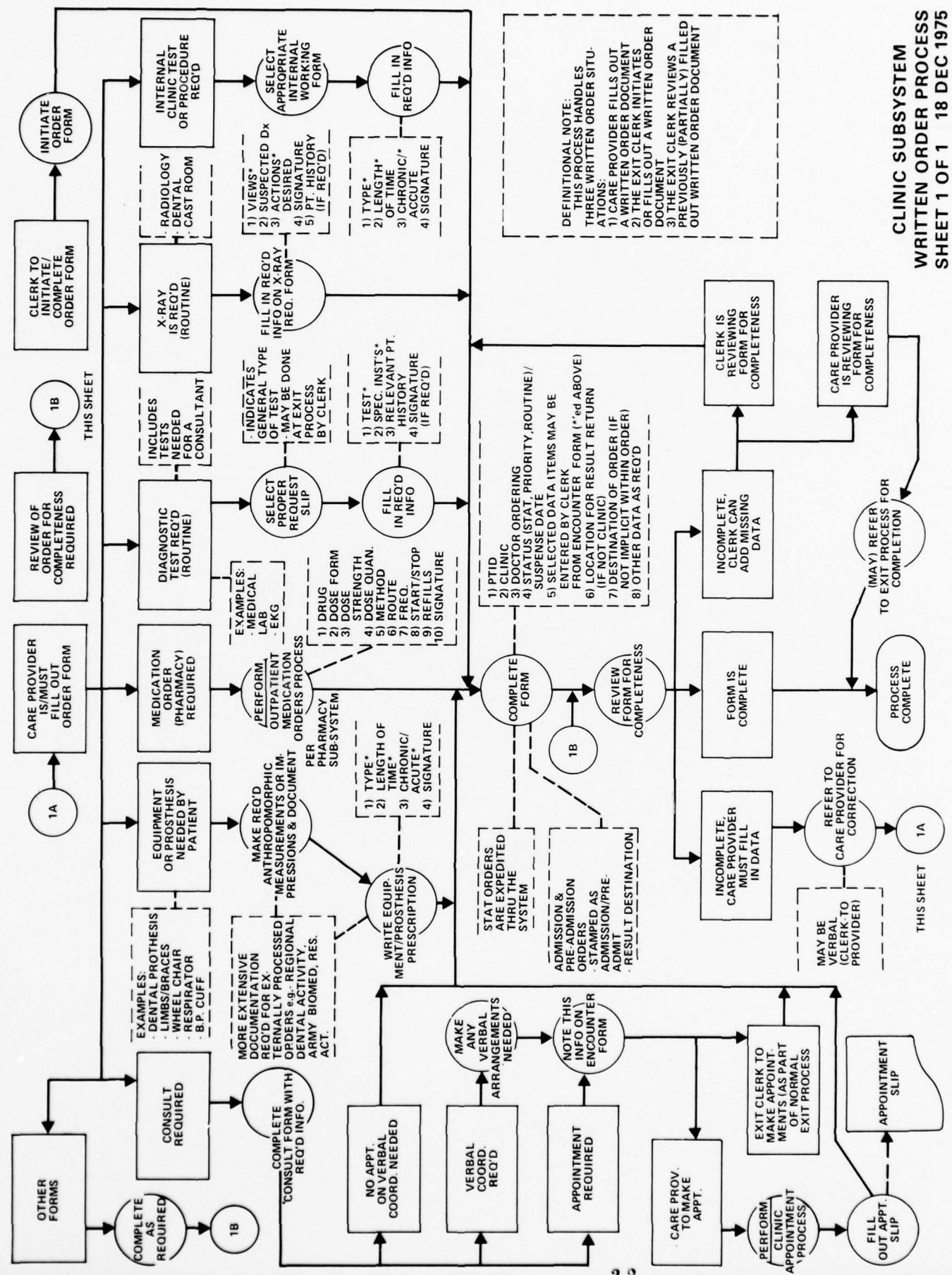






FROM SHEET 1



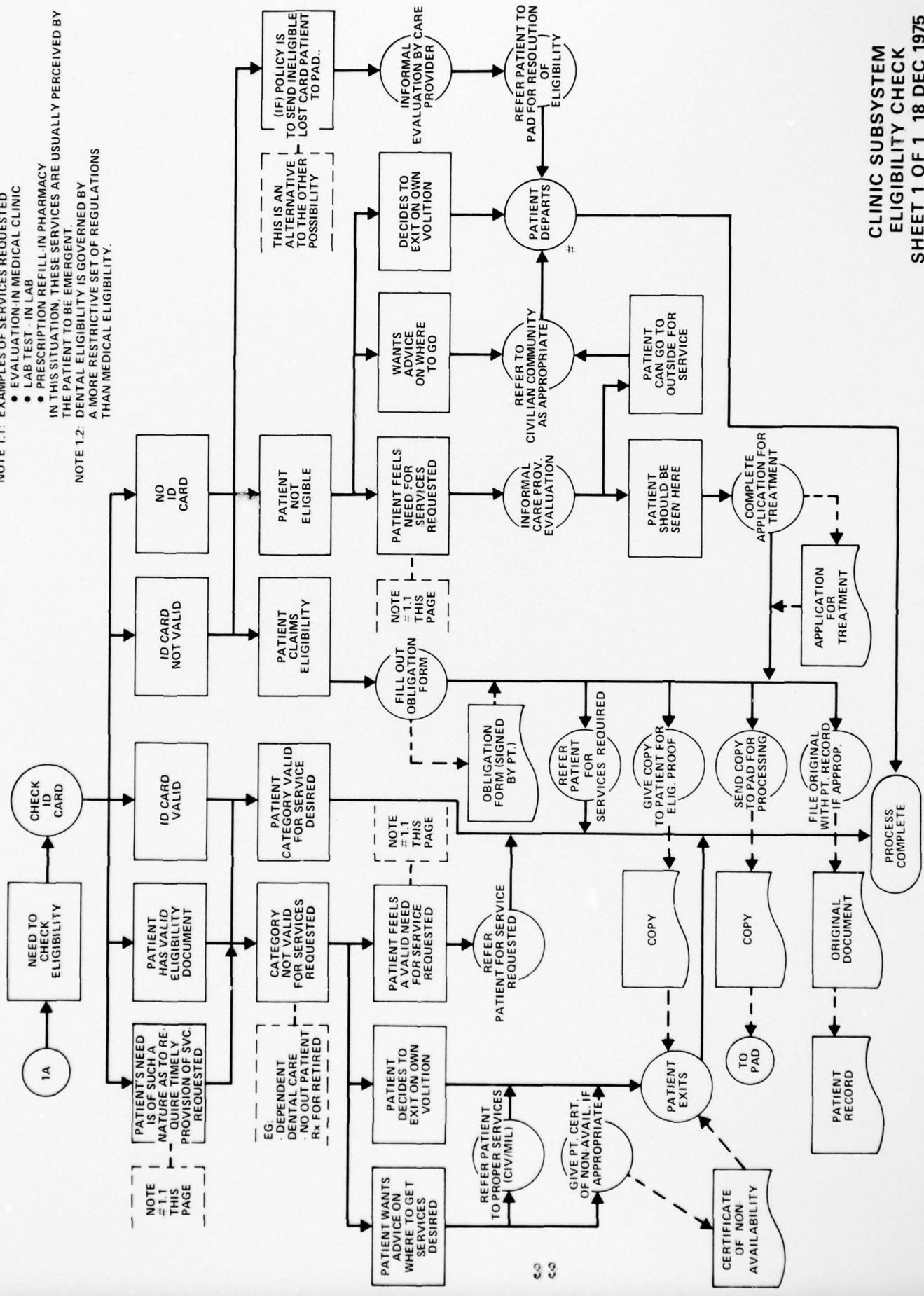


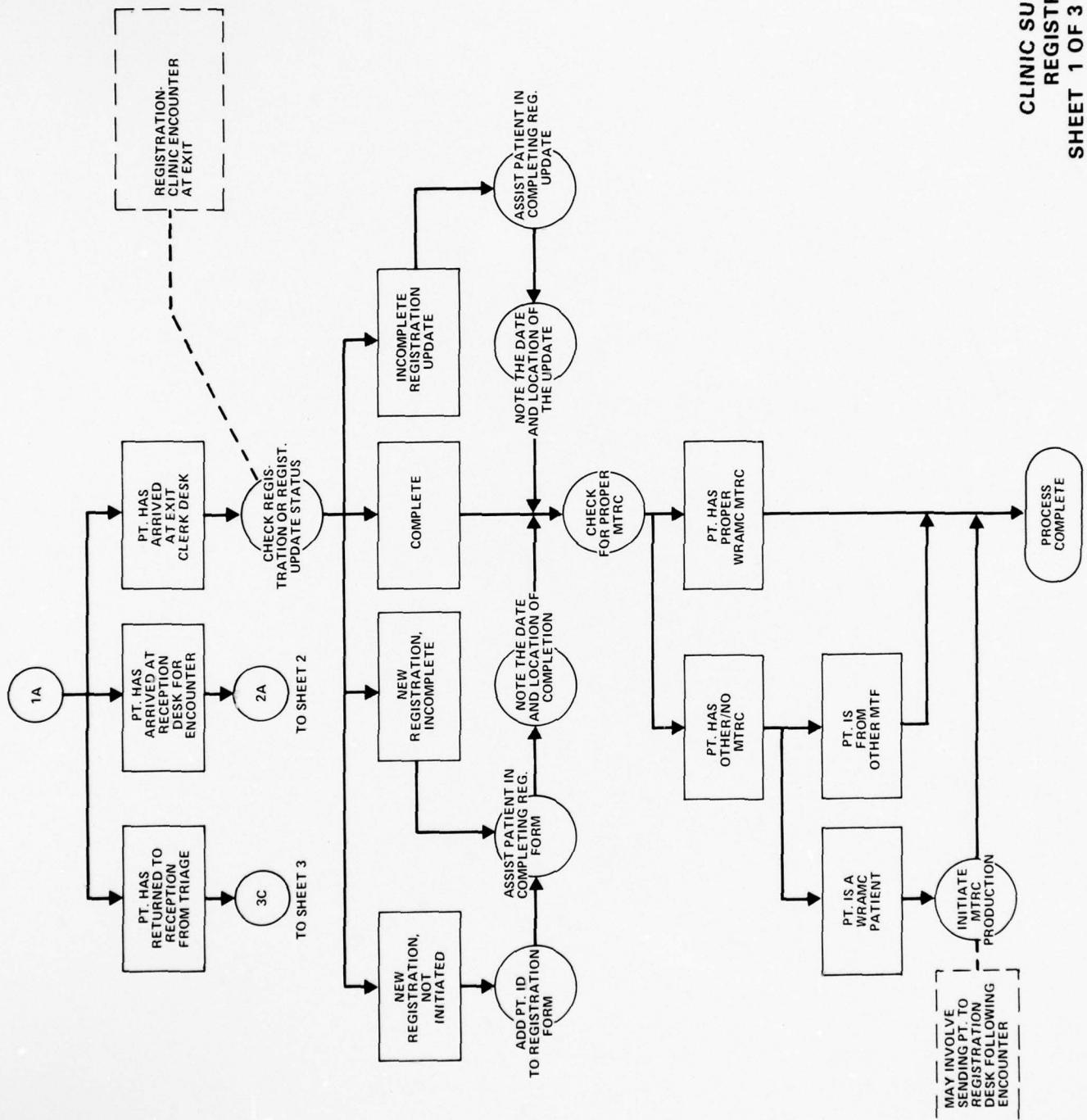
NOTE 1.1: EXAMPLES OF SERVICES REQUESTED

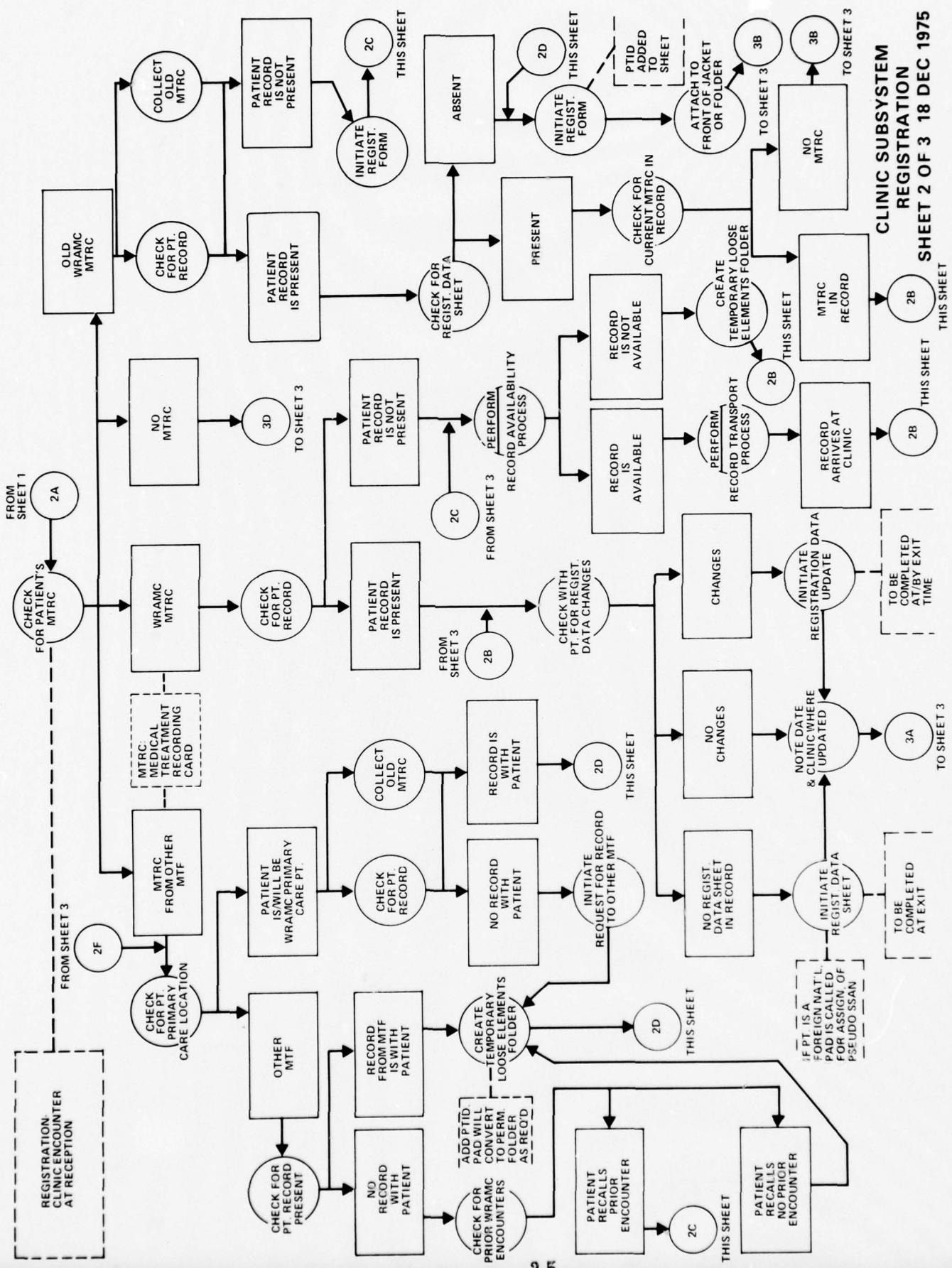
- EVALUATION IN MEDICAL CLINIC
- LAB TEST - IN LAB
- PREScription REFILL-IN PHARMACY

IN THIS SITUATION, THESE SERVICES ARE USUALLY PERCEIVED BY THE PATIENT TO BE EMERGENT.

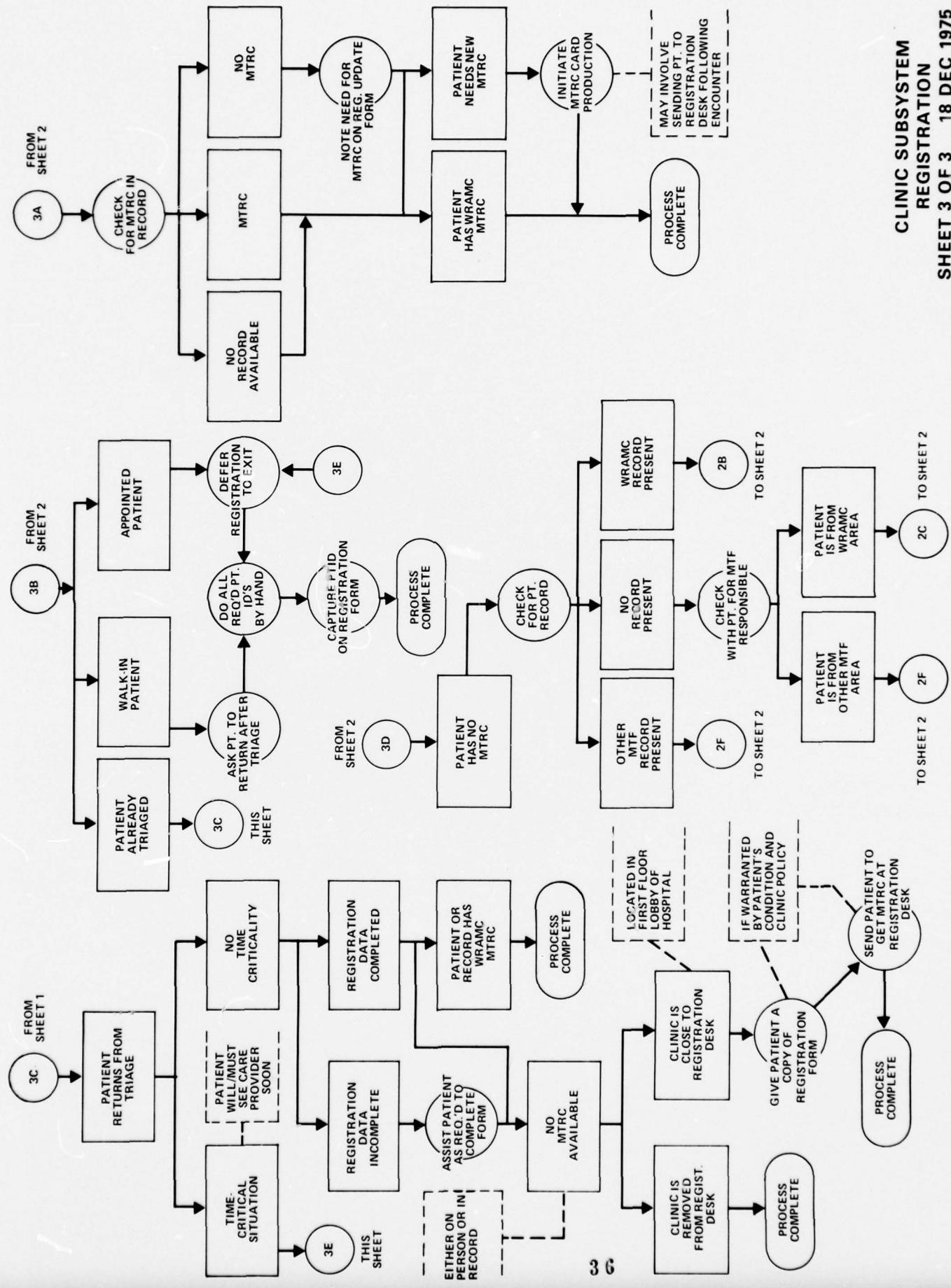
NOTE 1.2: DENTAL ELIGIBILITY IS GOVERNED BY A MORE RESTRICTIVE SET OF REGULATIONS THAN MEDICAL ELIGIBILITY.

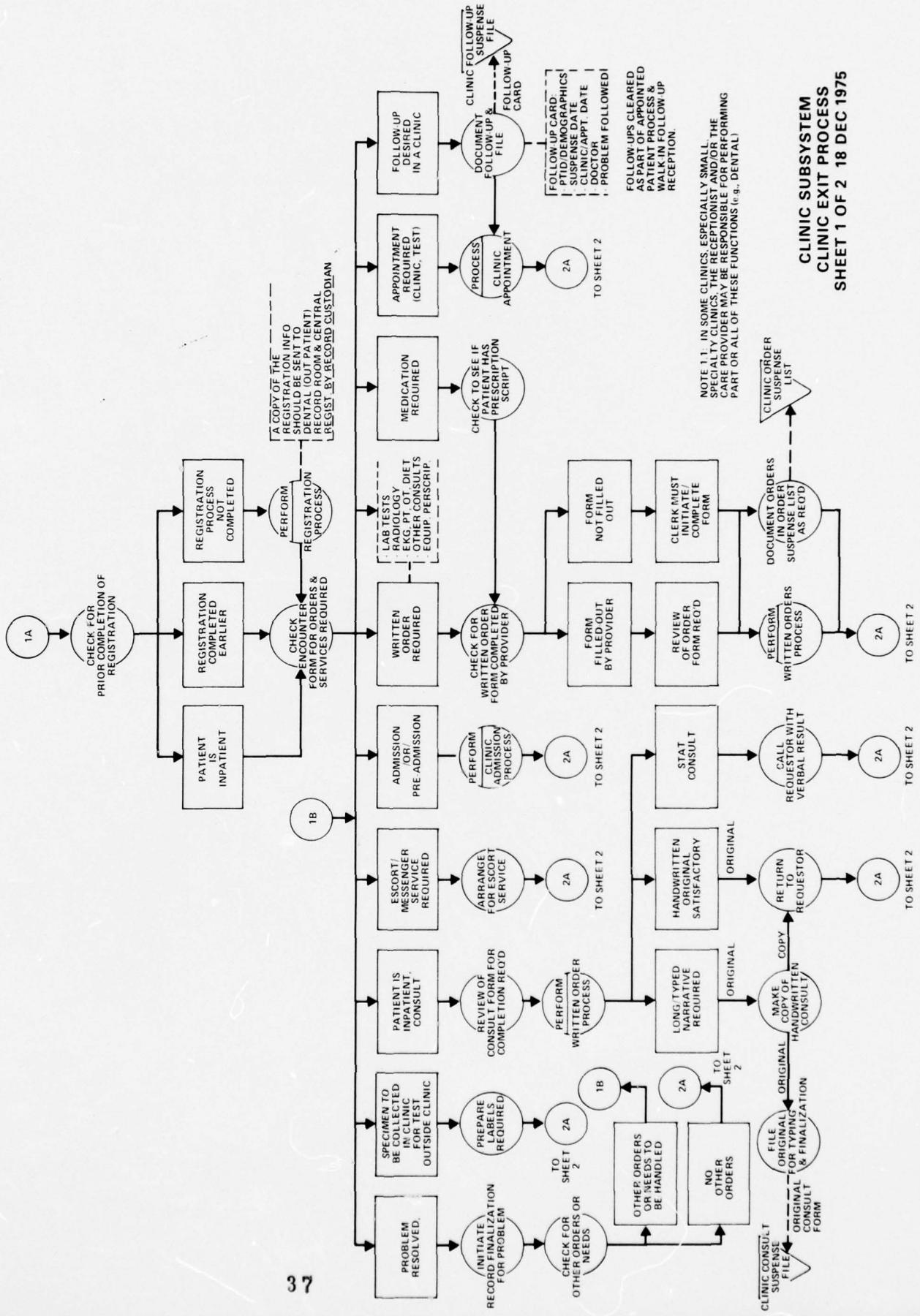


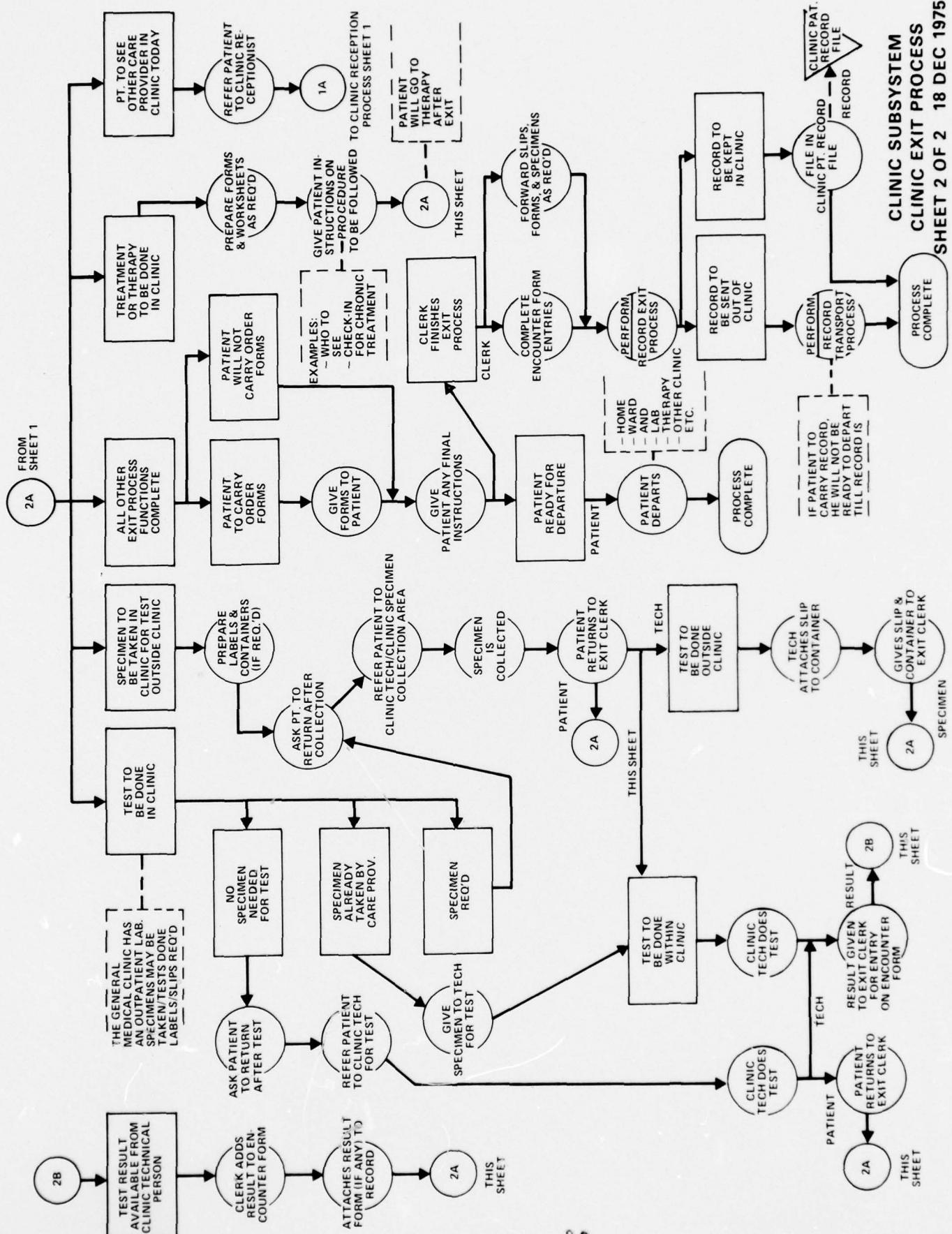




35

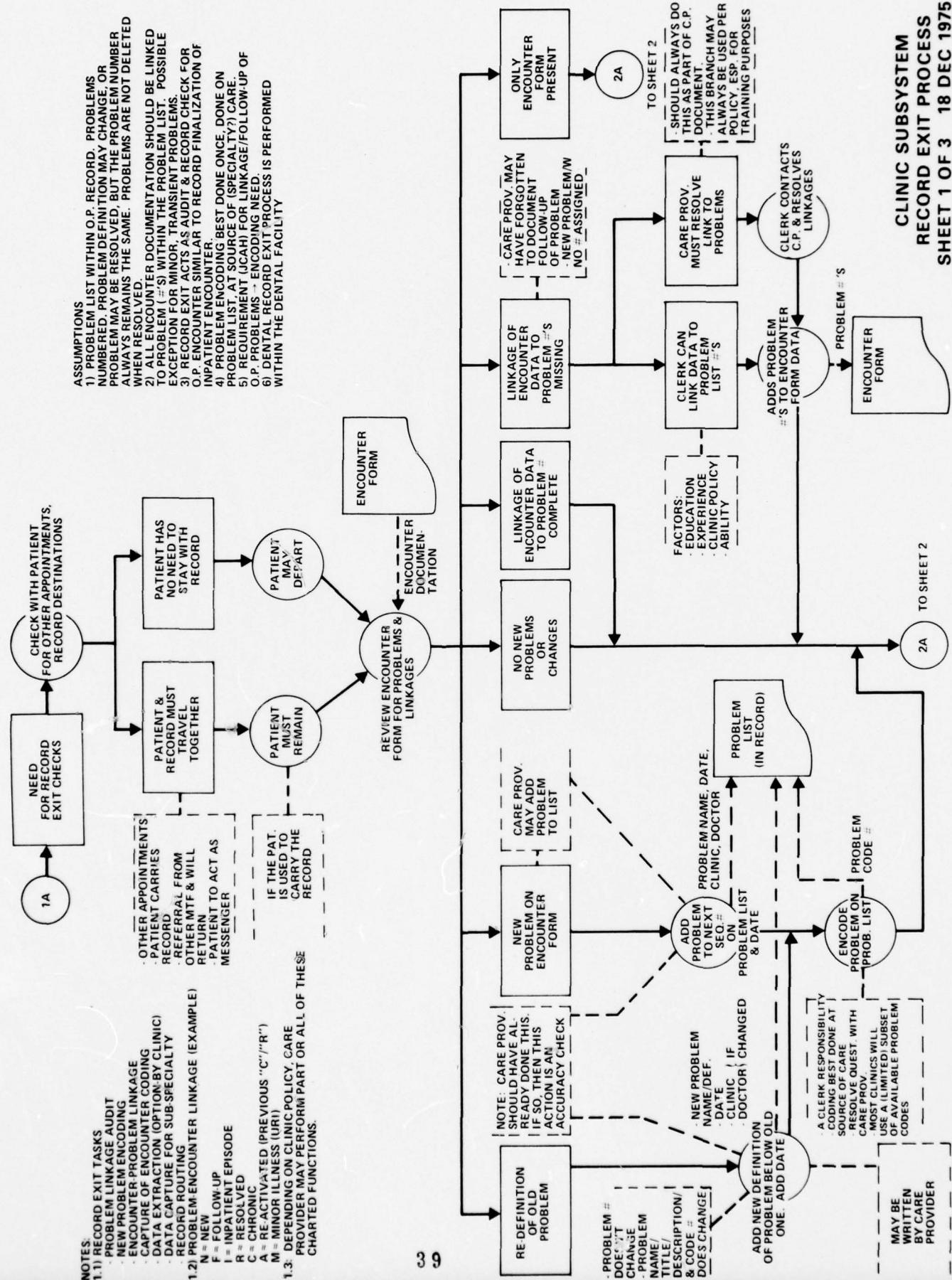






NOTES:

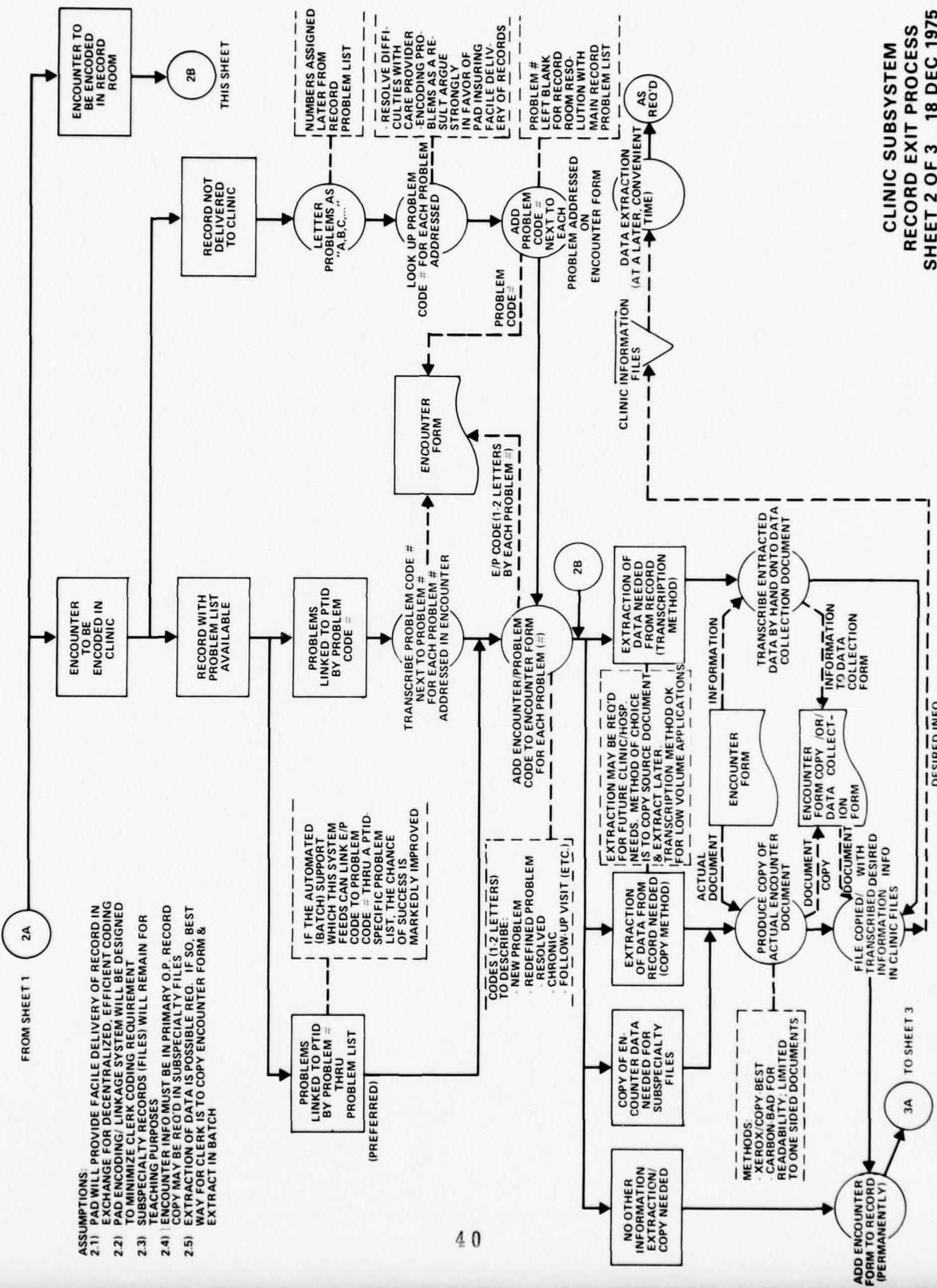
- 1.1) RECORD EXIT TASKS
 - NEW PROBLEM ENCODING
 - ENOUNTER-PROBLEM LINKAGE
 - CAPTURE OF ENOUNTER CODING
 - DATA EXTRACTION (OPTION: BY CLINIC)
 - RECORD ROUTING
 - RECORD CAPTURE FOR SUB-SPECIALTY
- 1.2) PROBLEM-ENCOUNTER LINKAGE (EXAMPLE)
 - OTHER APPOINTMENTS
 - PATIENT CARRIES RECORD
 - REFERRAL FROM OTHER MTF & WILL RETURN
 - PATIENT TO ACT AS MESSENGER
- 1.3) DEPENDING ON CLINIC POLICY, CARE PROVIDER MAY PERFORM PART OR ALL OF THESE CHARTED FUNCTIONS.



FROM SHEET 1

ASSUMPTIONS:

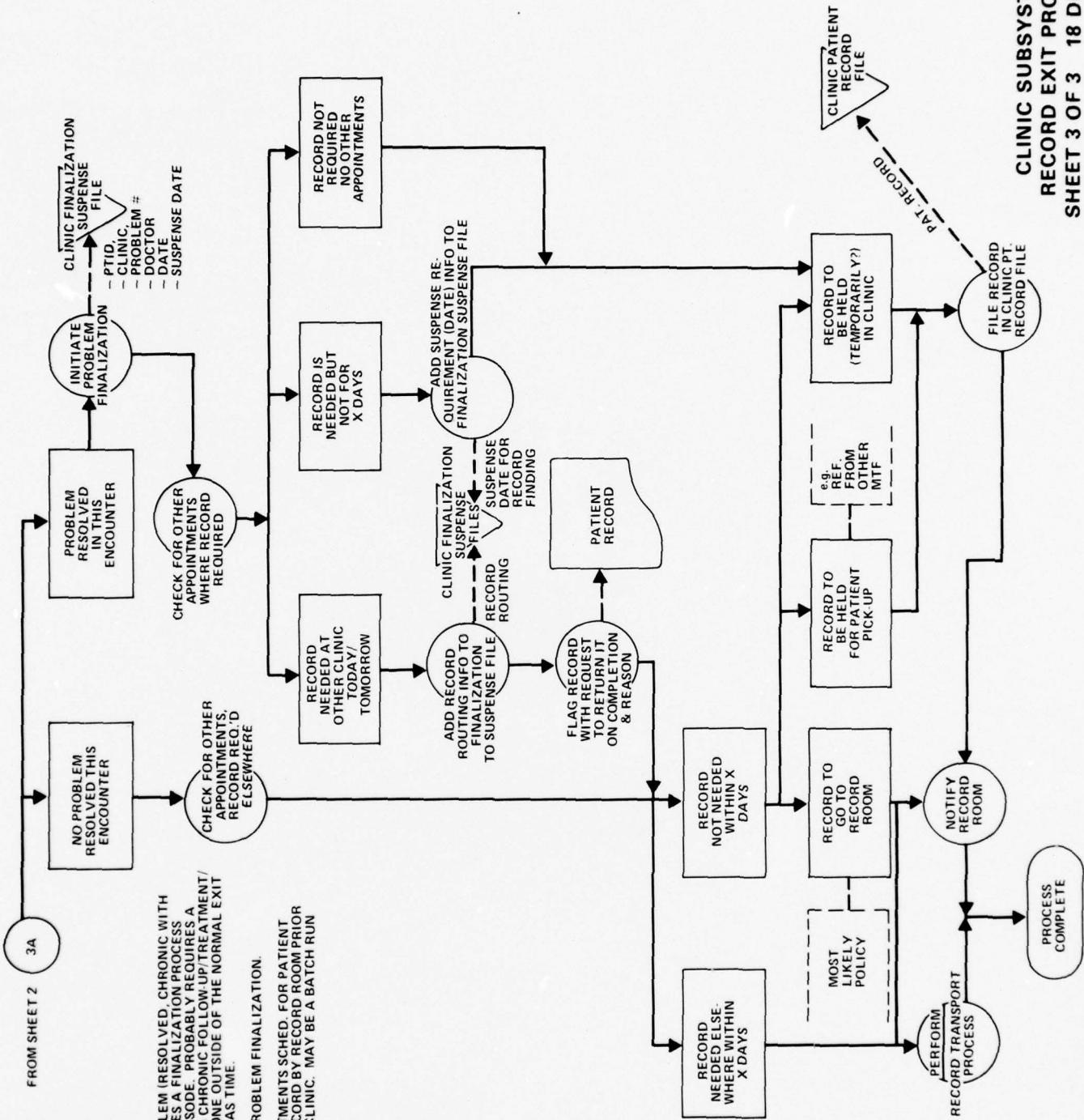
- 2.1) PAD WILL PROVIDE FACILE DELIVERY OF RECORD IN EXCHANGE FOR DECENTRALIZED, EFFICIENT CODING
- 2.2) PAD ENCODING, LINKAGE SYSTEM WILL BE DESIGNED TO MINIMIZE CLERK CODING REQUIREMENT
- 2.3) SUBSPECIALTY RECORDS (FILES) WILL REMAIN FOR TEACHING PURPOSES
- 2.4) ENCOUNTER INFO MUST BE IN PRIMARY O.P. RECORD COPY MAY BE READ IN SUBSPECIALTY FILES
- 2.5) EXTRACTION OF DATA IS POSSIBLE REO. IF SO, BEST WAY FOR CLERK IS TO COPY ENCOUNTER FORM & EXTRACT IN BATCH

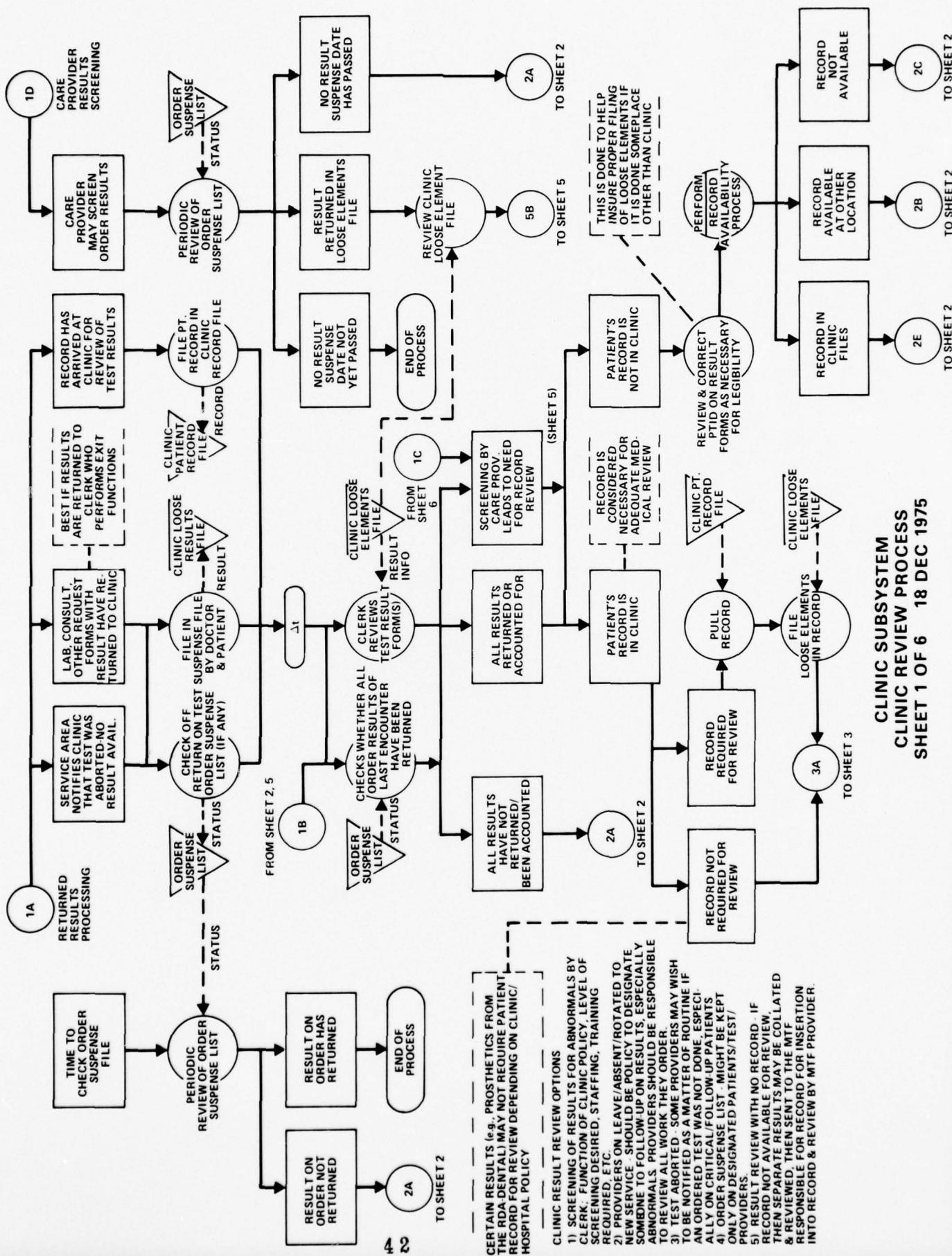


CLINIC SUBSYSTEM
RECORD EXIT PROCESS
SHEET 2 OF 3 18 DEC 1975

FROM SHEET 2
3A

- ASSUMPTIONS:
- 3.1) RESOLUTION OF O.P. PROBLEM (RESOLVED, CHRONIC WITH FOLLOW UP INST.) REQUIRES A FINALIZATION PROCESS SIMILAR TO INPATIENT EPISODE, PROBABLY REQUIRES A SUMMARY OF PROBLEMS & CHRONIC FOLLOW UP/TREATMENT/ THERAPY. THIS IS BEST DONE OUTSIDE OF THE NORMAL EXIT PROCESS AS CARE PROV. HAS TIME.
 - 3.2) RECORD REQUIRED FOR PROBLEM FINALIZATION.
 - 3.3) INFORMATION ON APPOINTMENTS SCHED. FOR PATIENT WILL BE PLACED ON/IN RECORD BY RECORD ROOM PRIOR TO BEING SENT TO (THIS) CLINIC. MAY BE A BATCH RUN COMPUTER LIST.

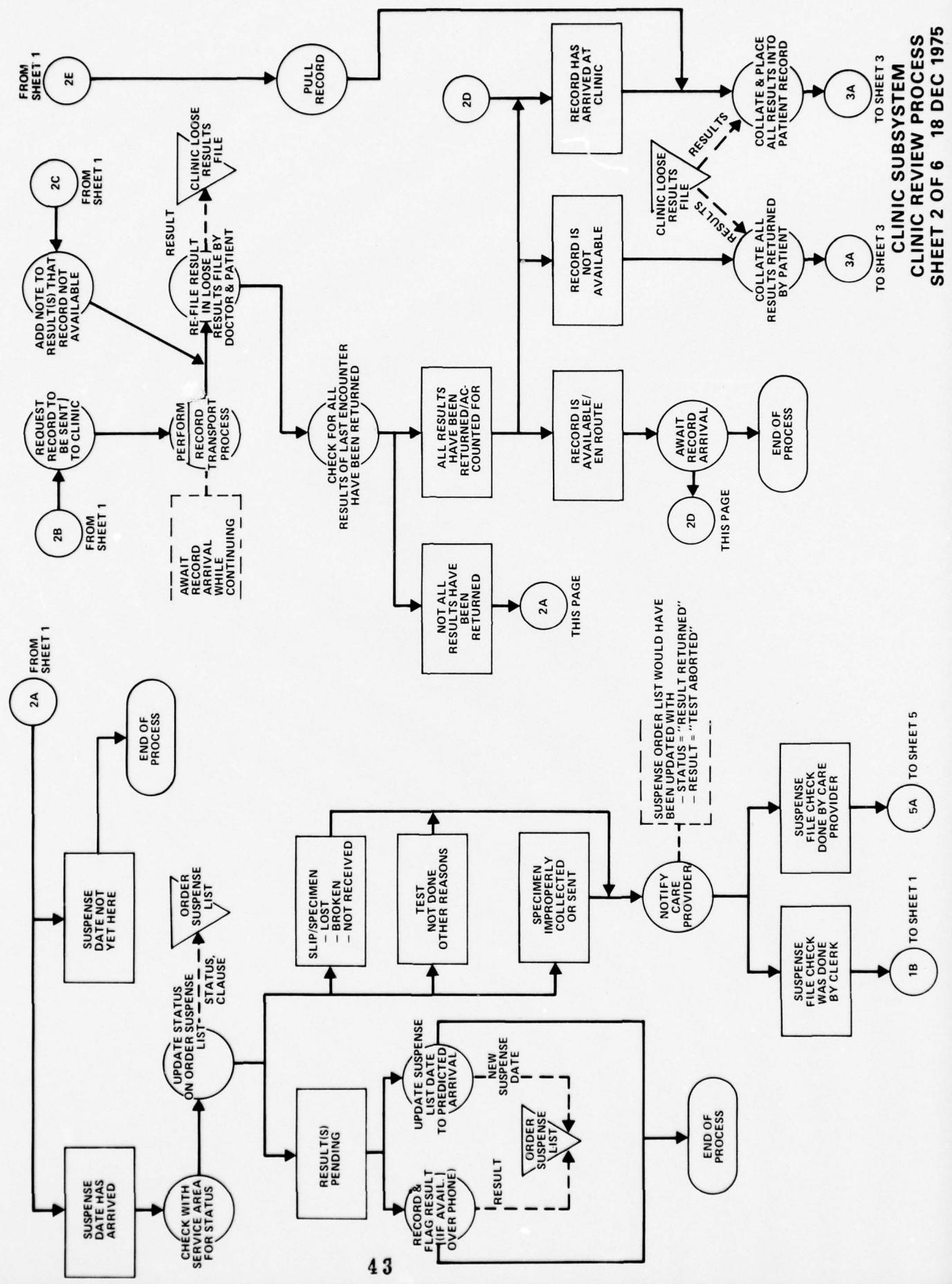




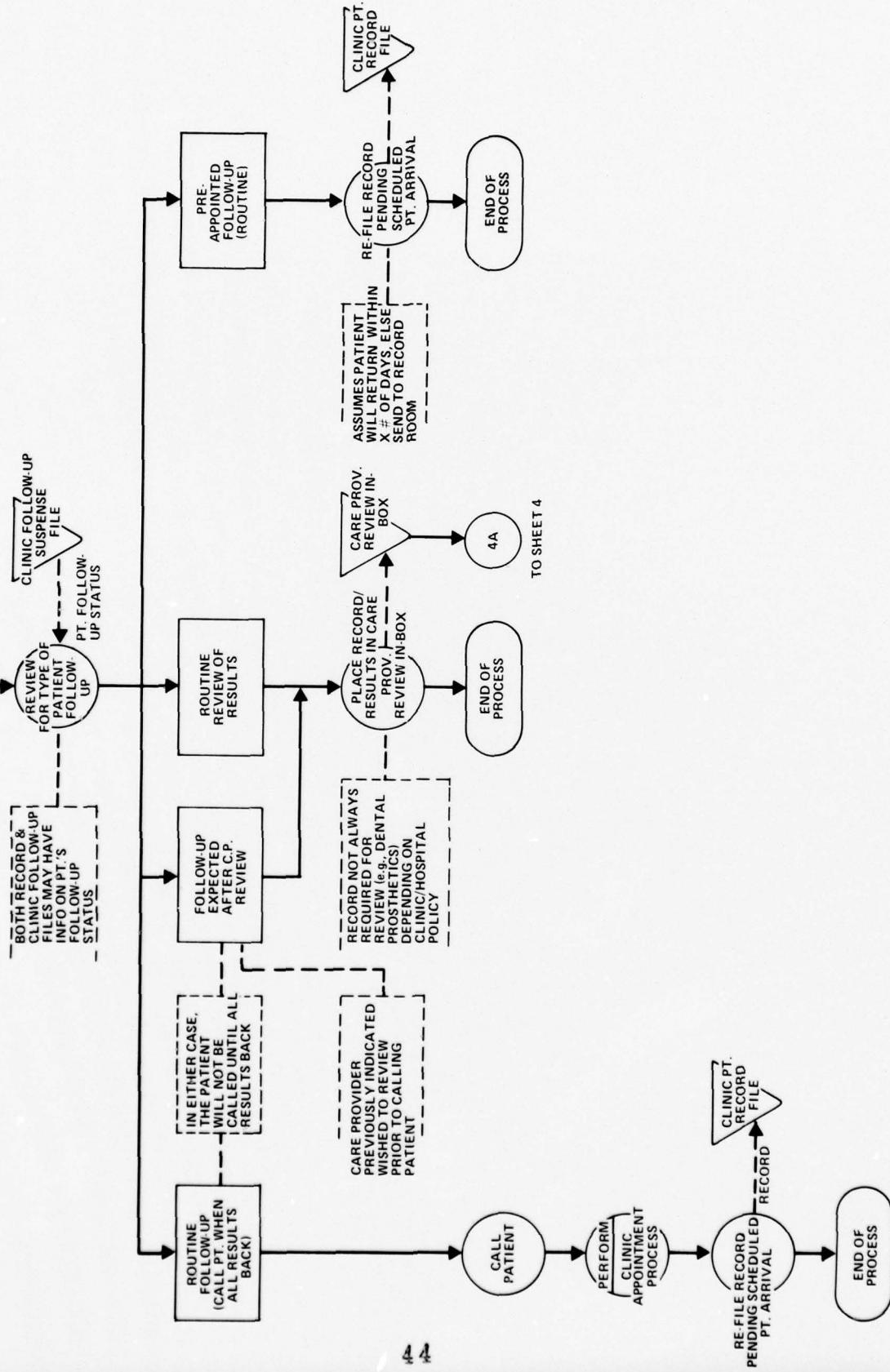
CERTAIN RESULTS (e.g., PROSTHESES FROM THE RDA DENTAL) MAY NOT REQUIRE PATIENT RECORD FOR REVIEW DEPENDING ON CLINIC/HOSPITAL POLICY

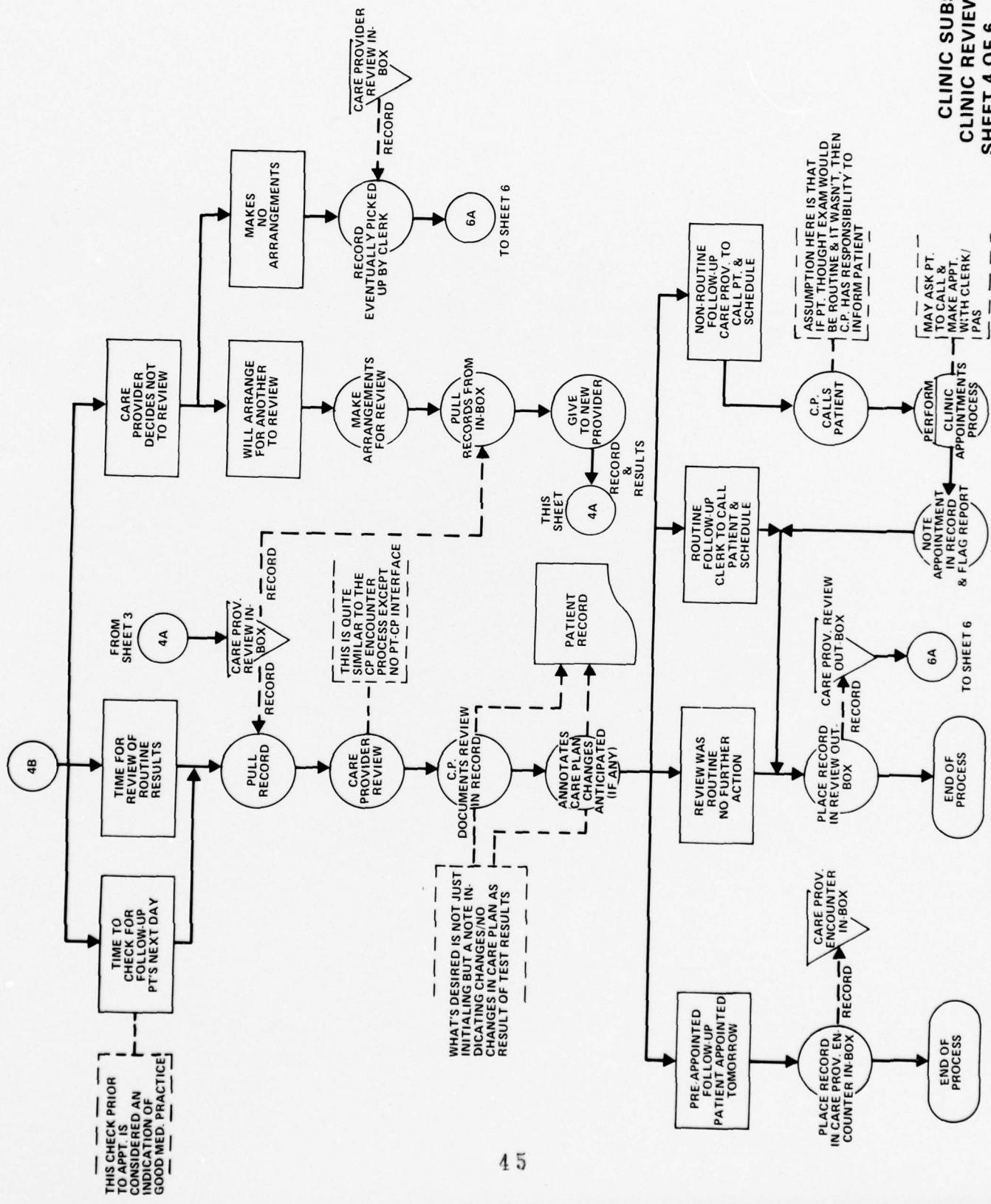
CLINIC RESULT REVIEW OPTIONS

- 1) SCREENING OF RESULTS FOR ABNORMALS BY CLERK. FUNCTION OF CLINIC POLICY, LEVEL OF SCREENING DESIRED, STAFFING, TRAINING REQUIRED, ETC.
- 2) PROVIDERS ON LEAVE/ABSENT/ROTTED TO NEW SERVICE SHOULD BE POLICY TO DESIGNATE SOMEONE TO FOLLOW UP ON RESULTS, ESPECIALLY ABNORMALS. PROVIDERS SHOULD BE RESPONSIBLE TO REVIEW ALL WORK THE ORDER.
- 3) TEST ABORTED - SOME PROVIDERS MAY WISH TO BE NOTIFIED AS A MATTER OF ROUTINE IF AN ORDERED TEST WAS NOT DONE, ESPECIALLY ON CRITICAL/FOLLOW UP PATIENTS.
- 4) ORDER & SUSPENSE LIST - MIGHT BE KEPT ONLY ON DESIGNATED PATIENTS/TEST PROVIDERS.
- 5) RESULT REVIEW WITH NO RECORD - IF RECORD NOT AVAILABLE FOR REVIEW THEN SEPARATE RESULTS MAY BE COLLATED & REVIEWED, THEN SENT TO THE MTF RESPONSIBLE FOR RECORD & REVIEW BY MTF PROVIDER INTO RECORD & REVIEW BY MTF PROVIDER



FROM SHEET 1, 2

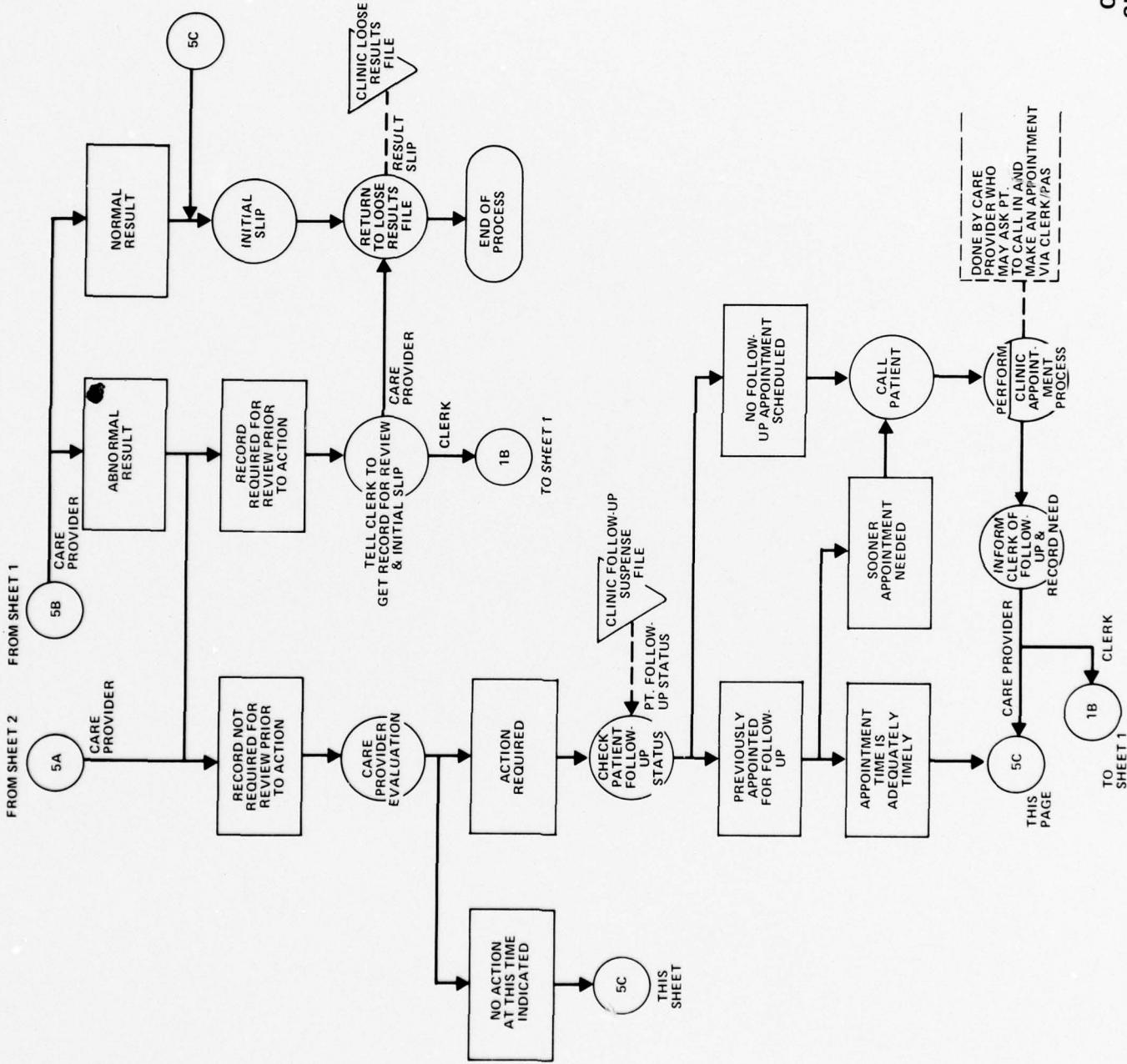


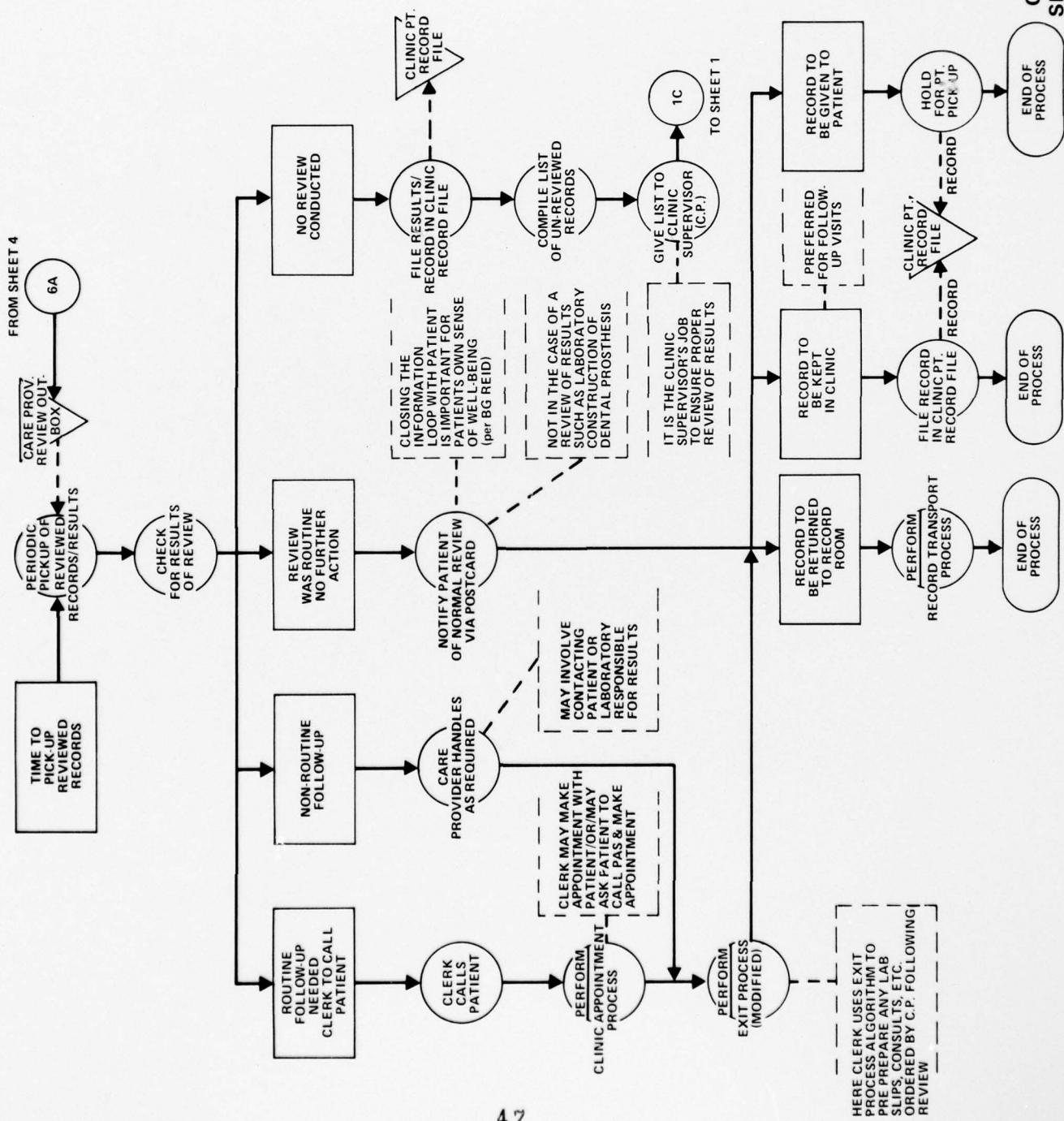


CLINIC SUBSYSTEM
CLINIC REVIEW PROCESS
SHEET 4 OF 6 18 DEC 1975

FROM SHEET 2

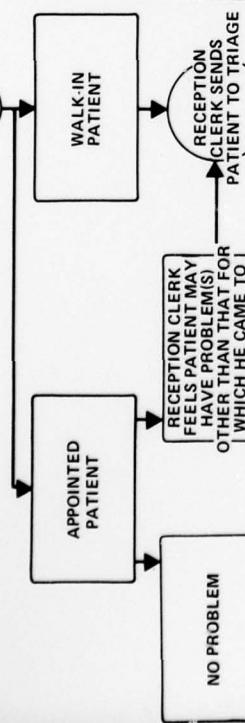
FROM SHEET 1





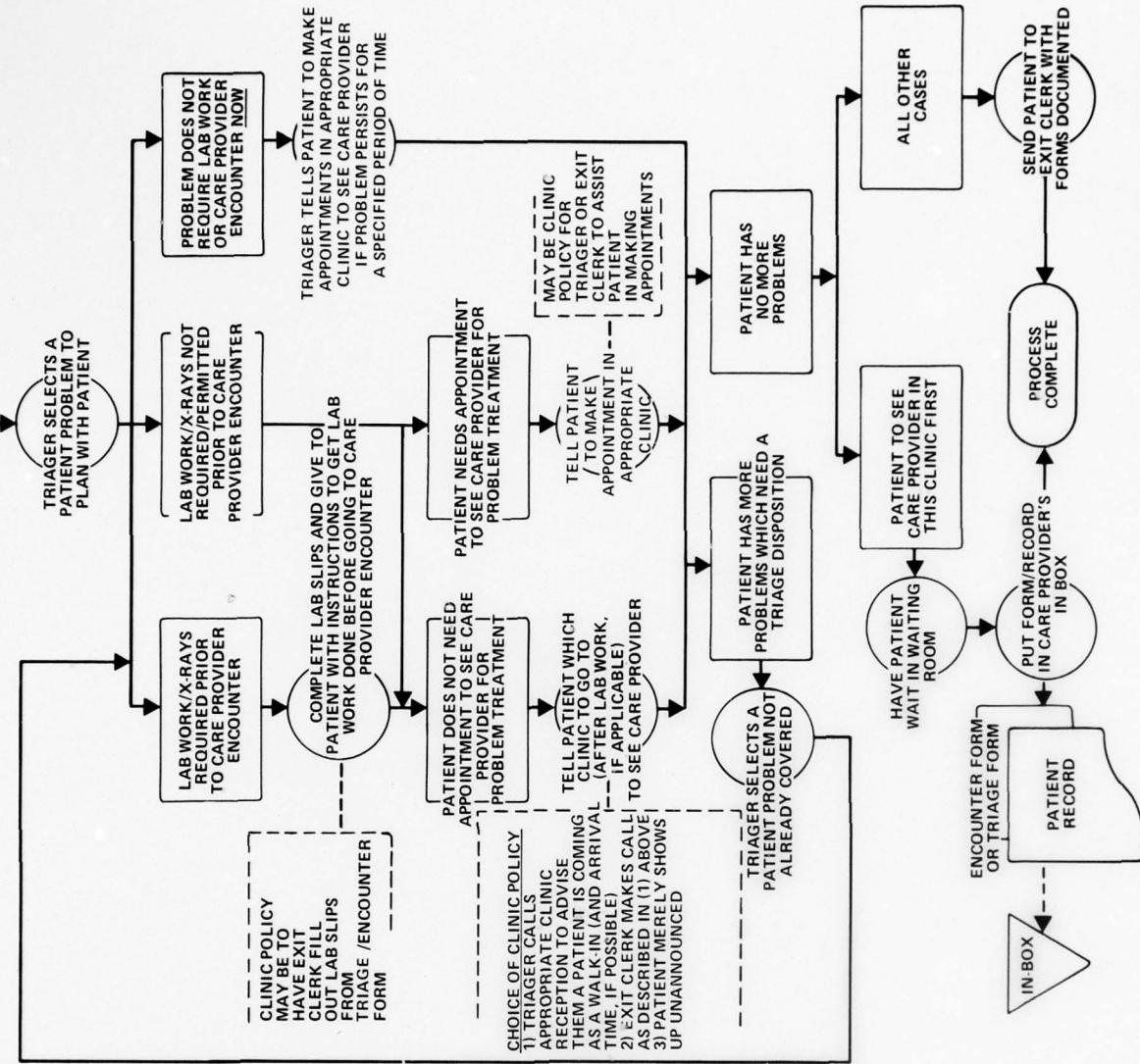
PATIENT TRIAGE
SUBPROCESS

1A



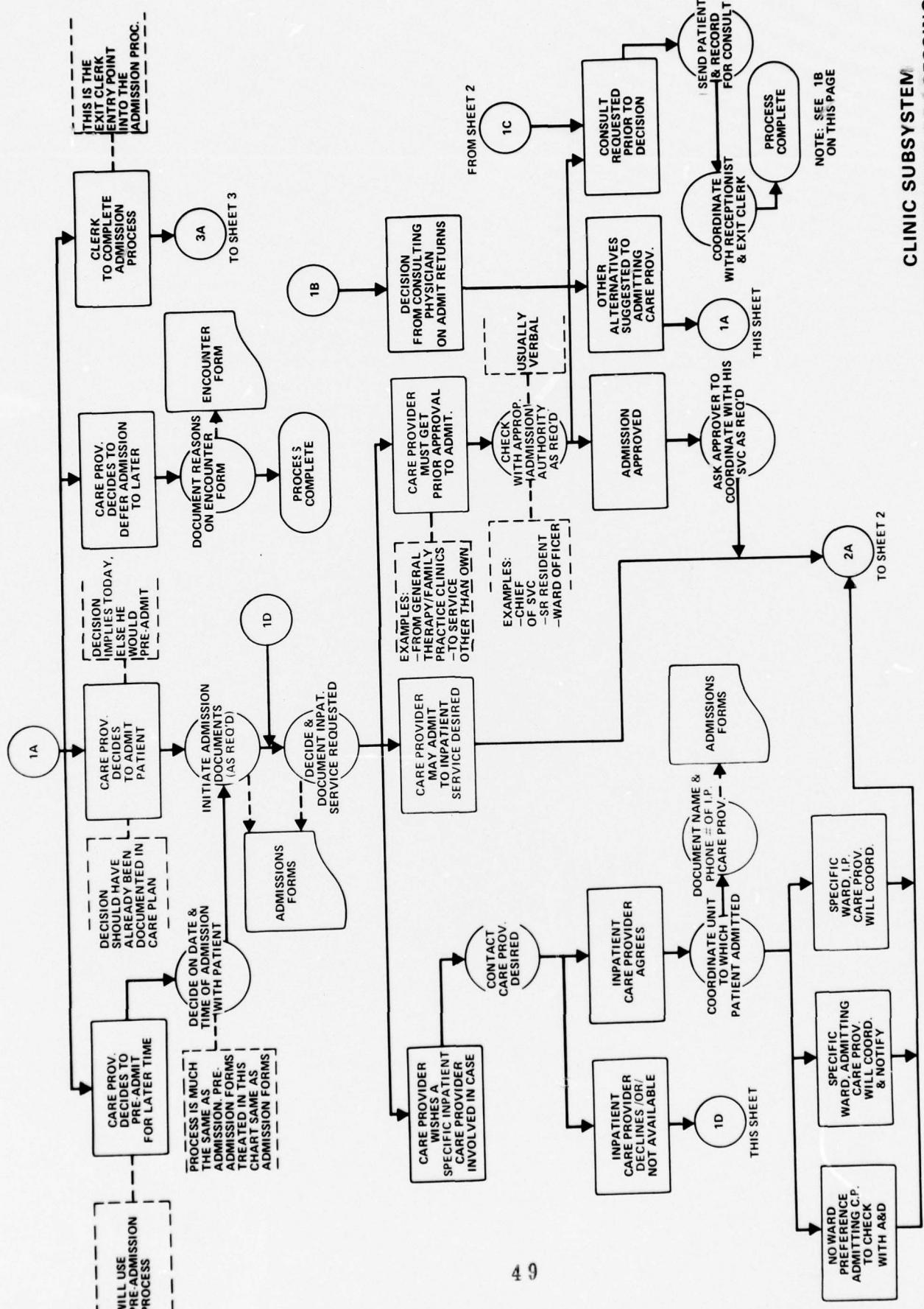
POST-TRIAGE
PATIENT DISPOSITION
SUBPROCESS

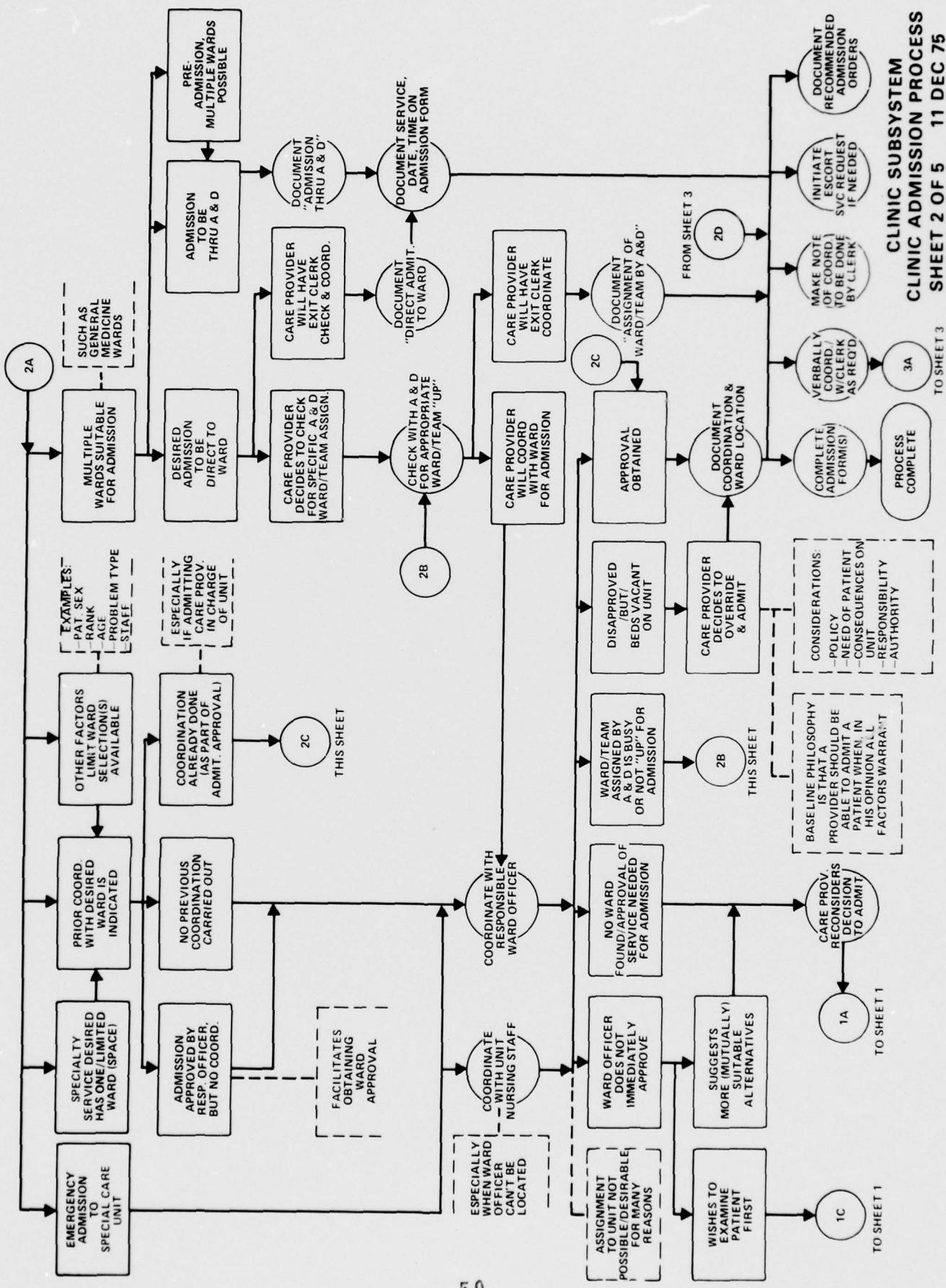
1B

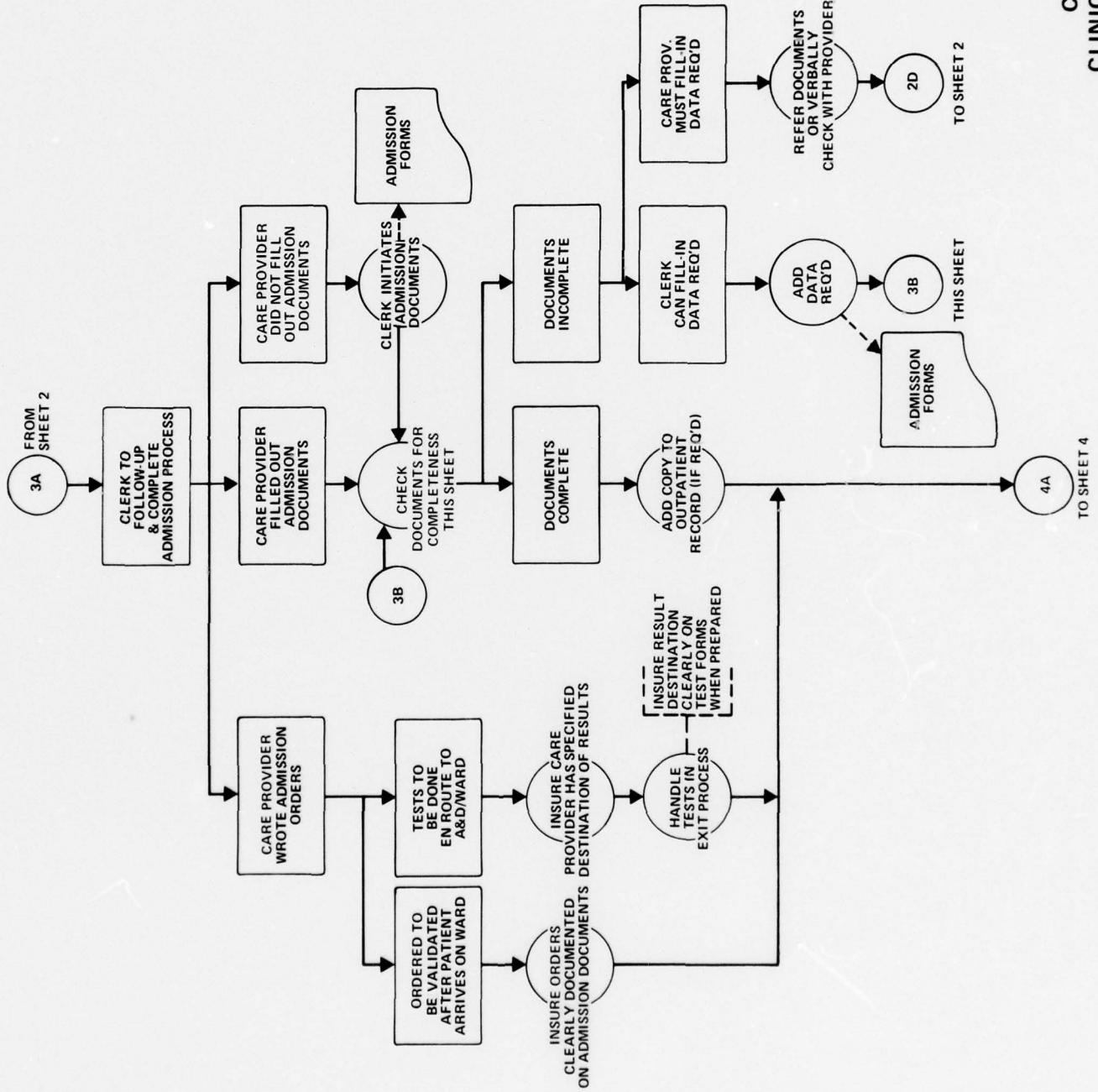


NOTE 1.1: TRIAGER IN DENTAL FACILITY IS REQUIRED TO BE A DENTAL EXAMINING OFFICER, AS OPPOSED TO THE PARAMEDICAL PERSONNEL USE IN OTHER CLINICS.

CLINIC SUBSYSTEM
CLINIC TRIAGE PROCESS
SHEET 1 OF 1 11 DEC 75

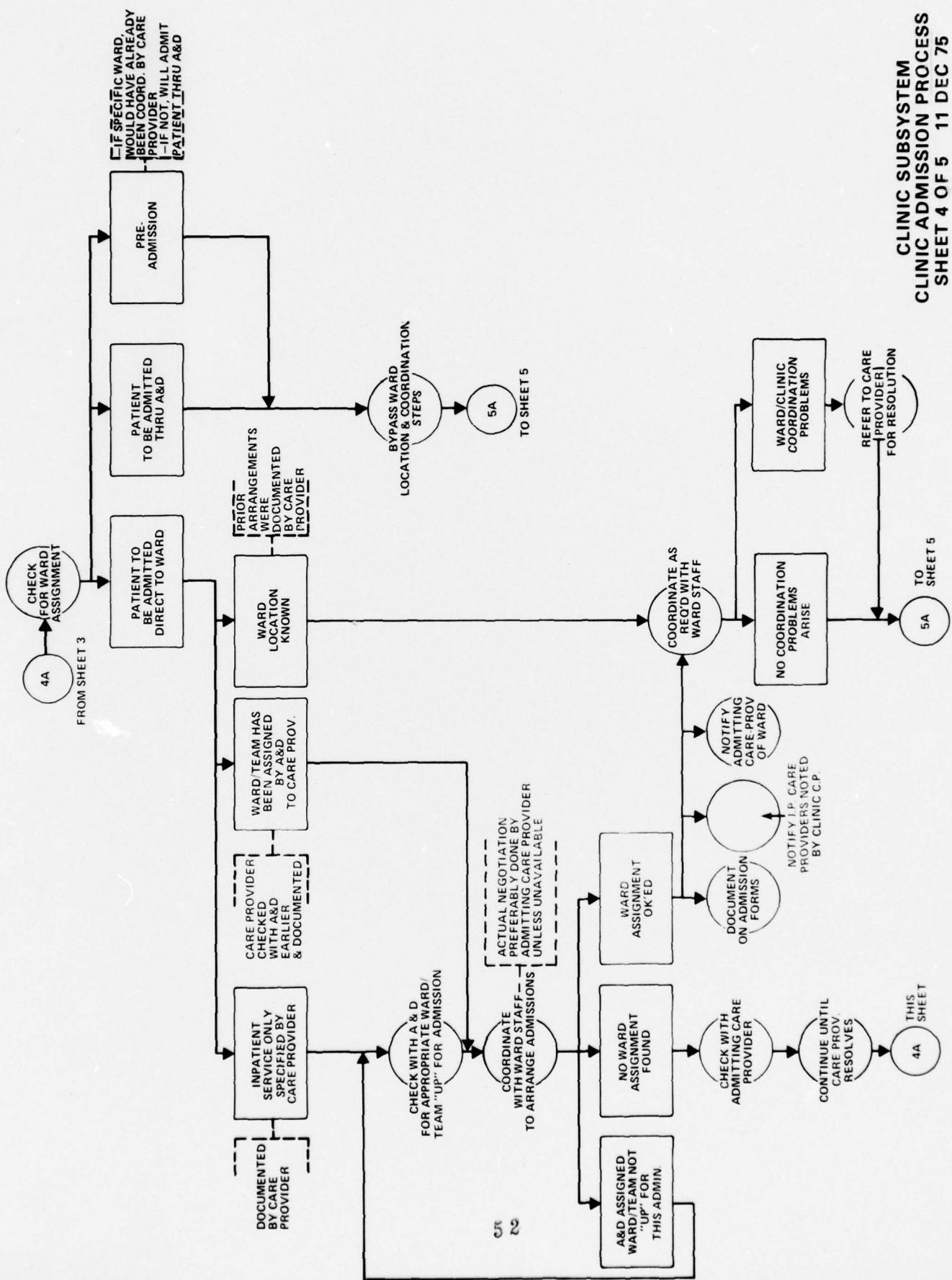


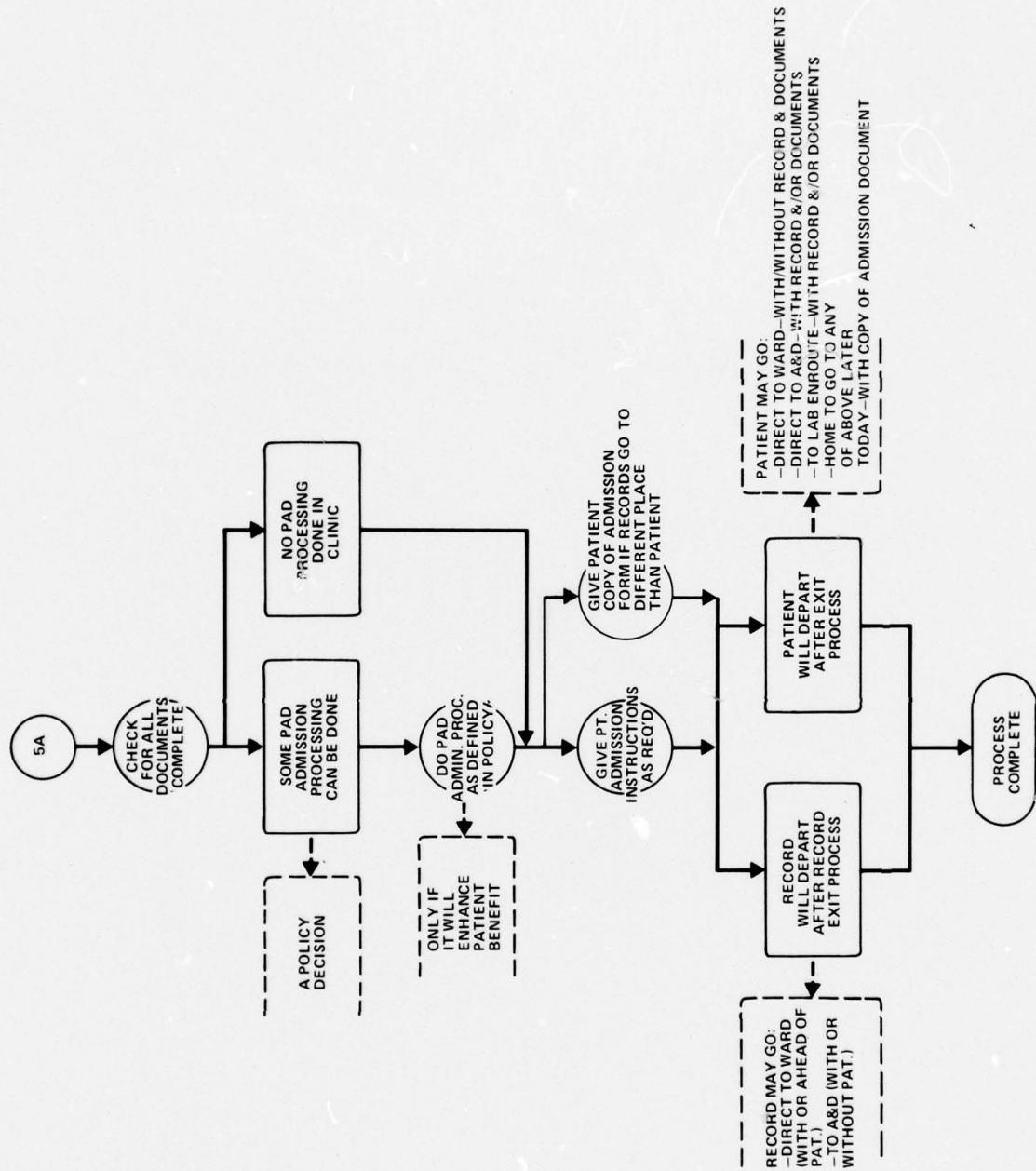


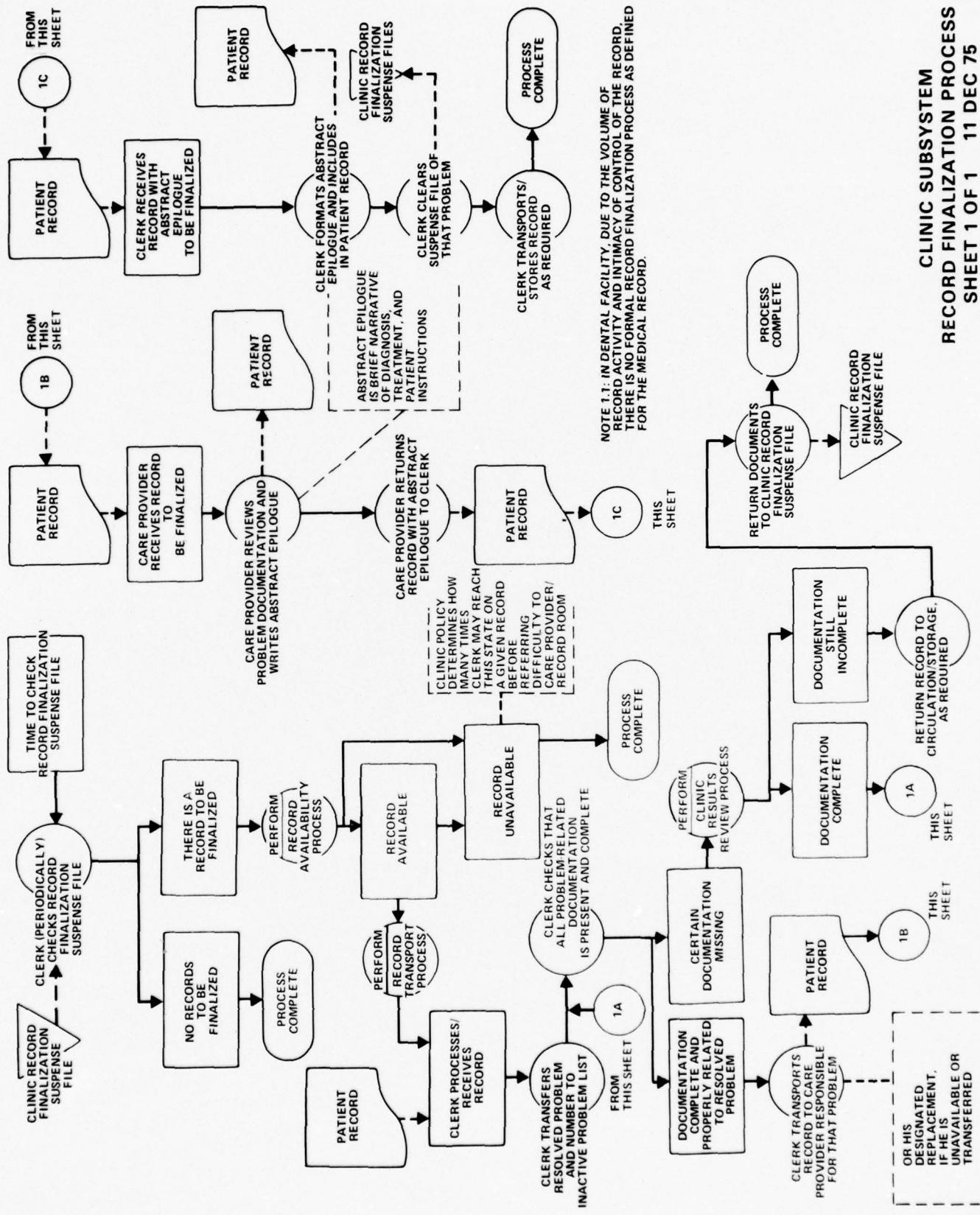


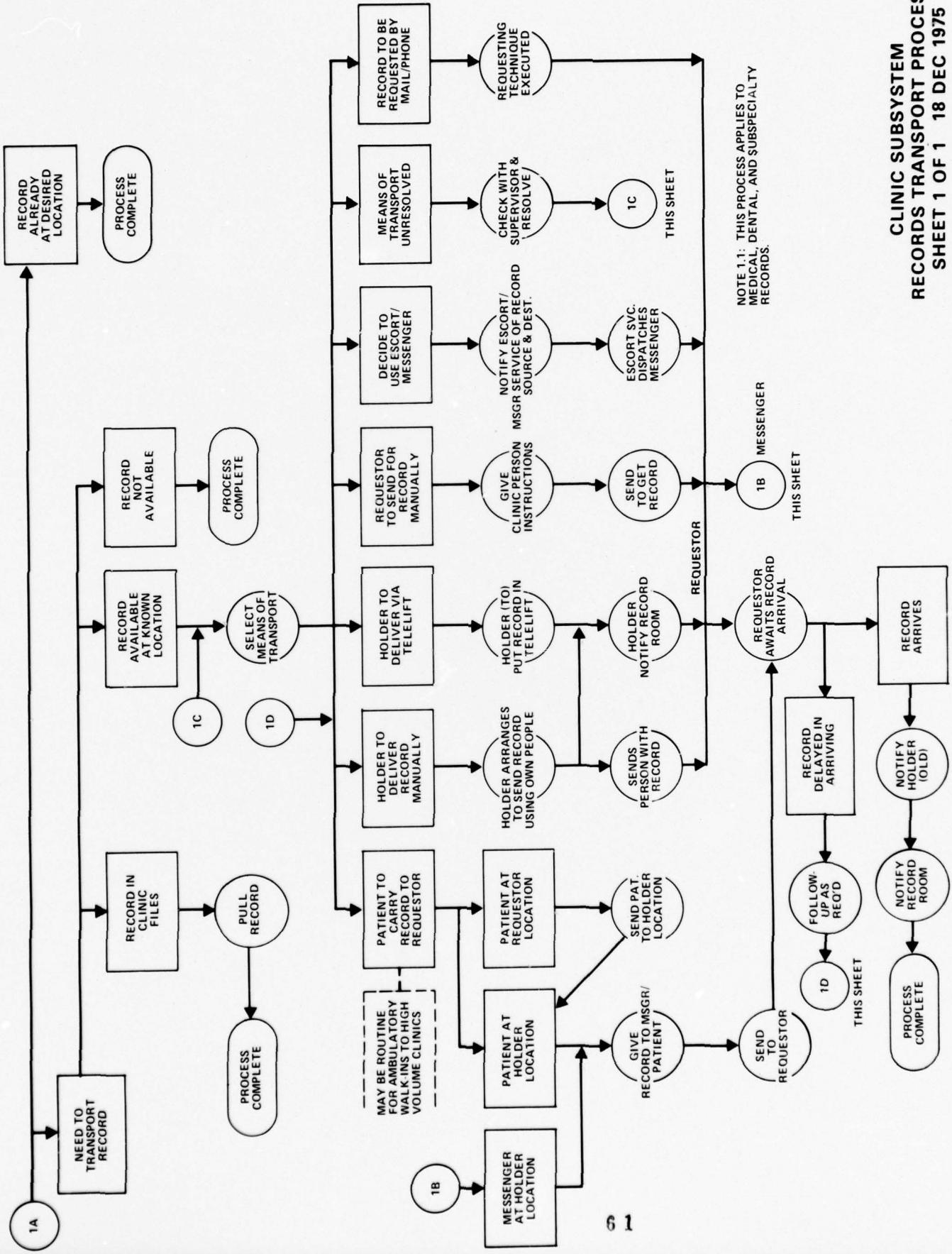
CLINIC SUBSYSTEM
CLINIC ADMISSION PROCESS
SHEET 3 OF 5 11 DEC 75

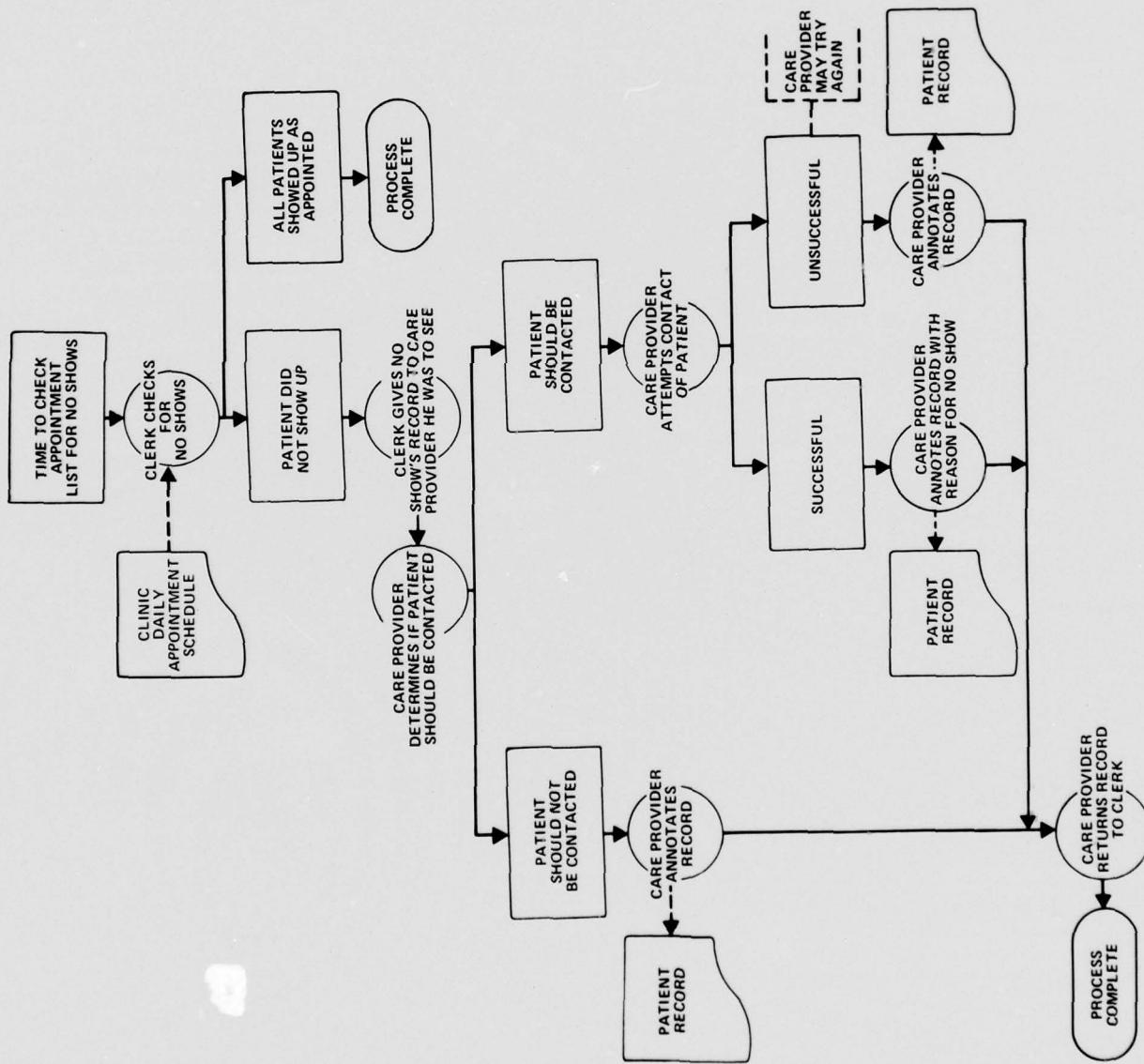
**CLINIC SUBSYSTEM
CLINIC ADMISSION PROCESS
SHEET 4 OF 5 11 DEC 75**





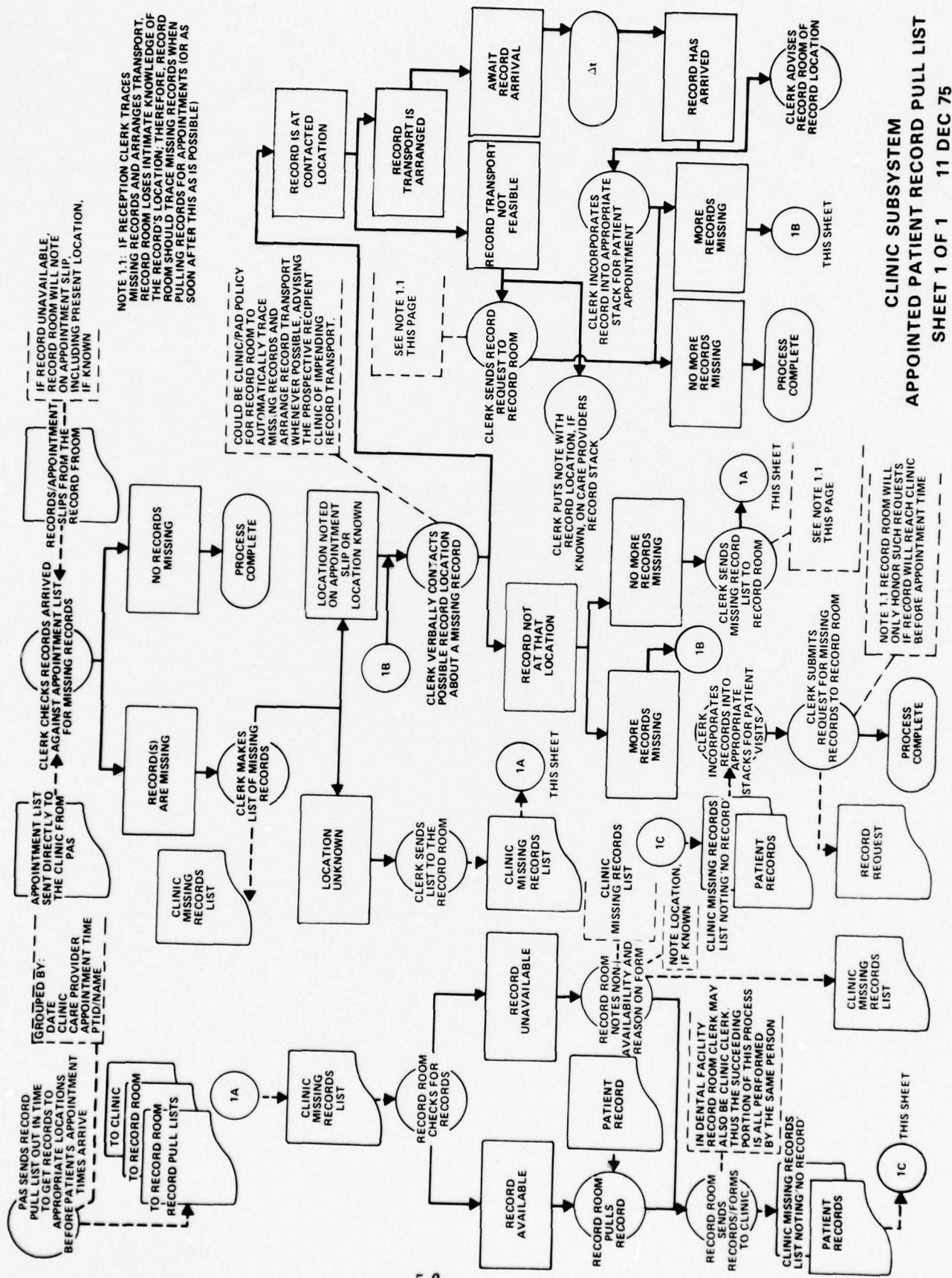






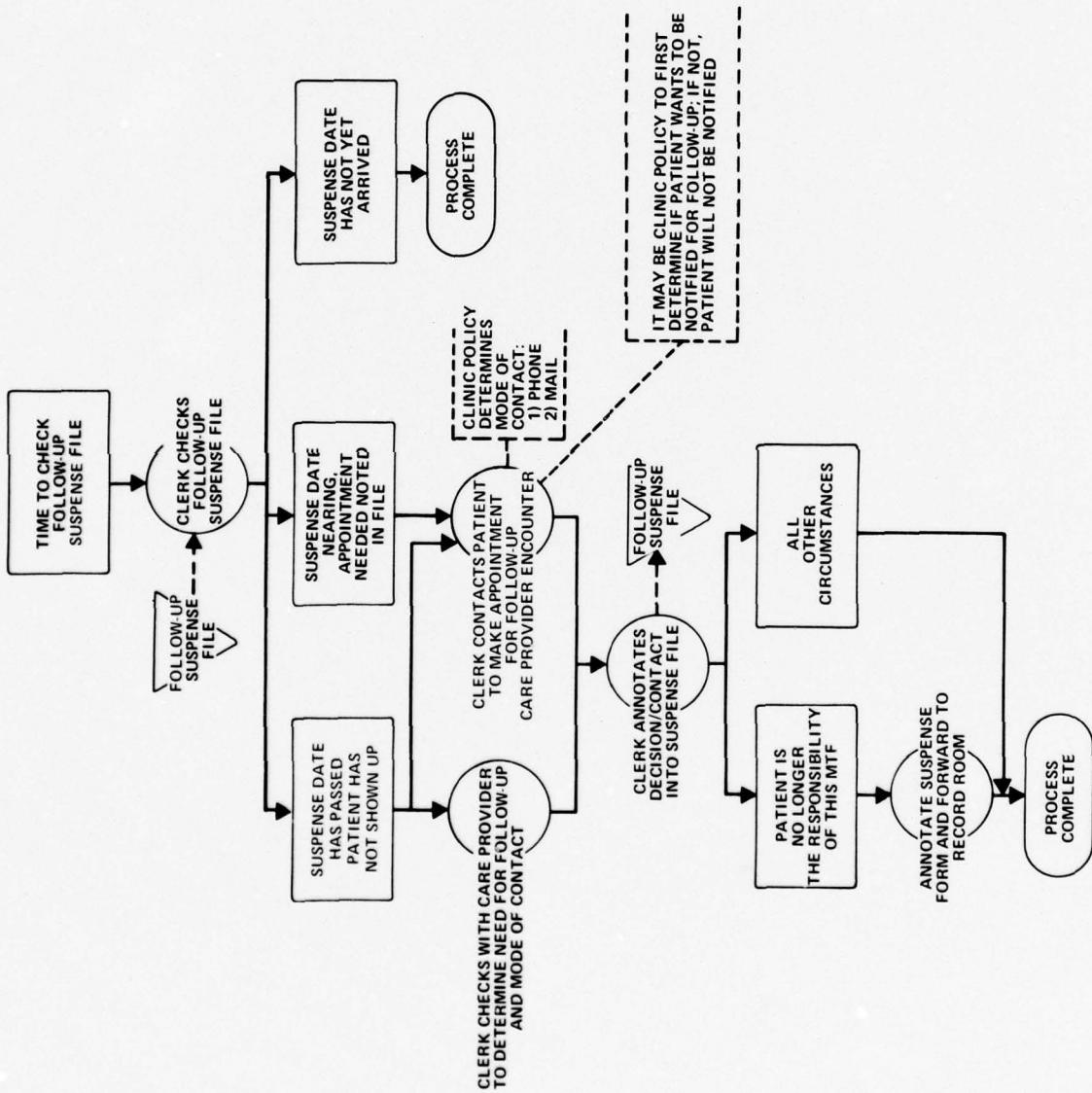
NOTE 1.1: THIS PROCEDURE IS TO BE FOLLOWED FOR EACH AND ALL NO SHOW PATIENTS.
 NOTE 1.2: THE NO SHOW PROCESS IS NORMALLY EXECUTED AT THE END OF THE CLINIC DAY.

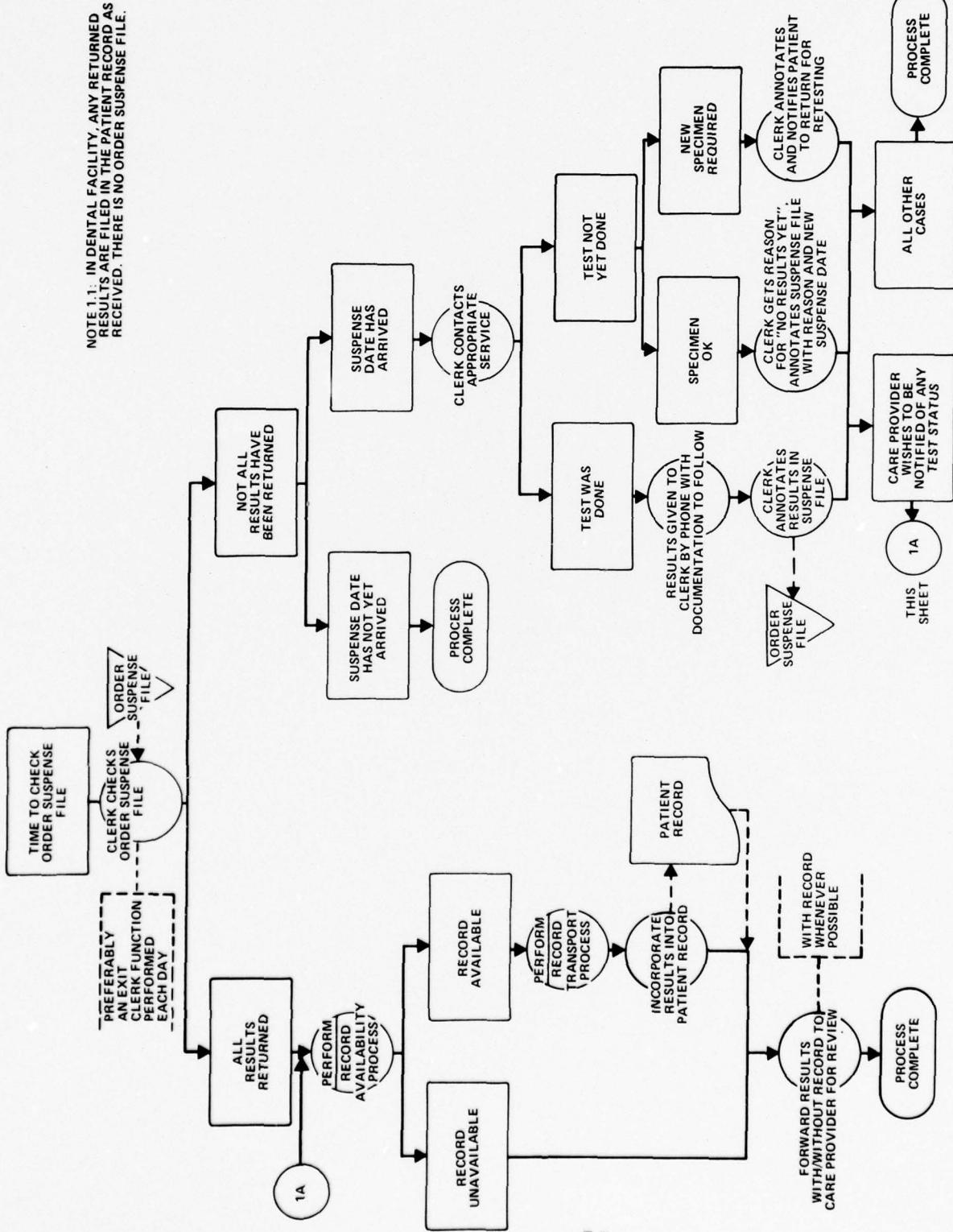
**CLINIC SUBSYSTEM
NO SHOWS PROCESS**
SHEET 1 OF 1 11 DEC 75



CLINIC SYSTEM
APPOINTED PATIENT RECORD PULL LIST
SHEET 1 OF 1 11 DEC 75

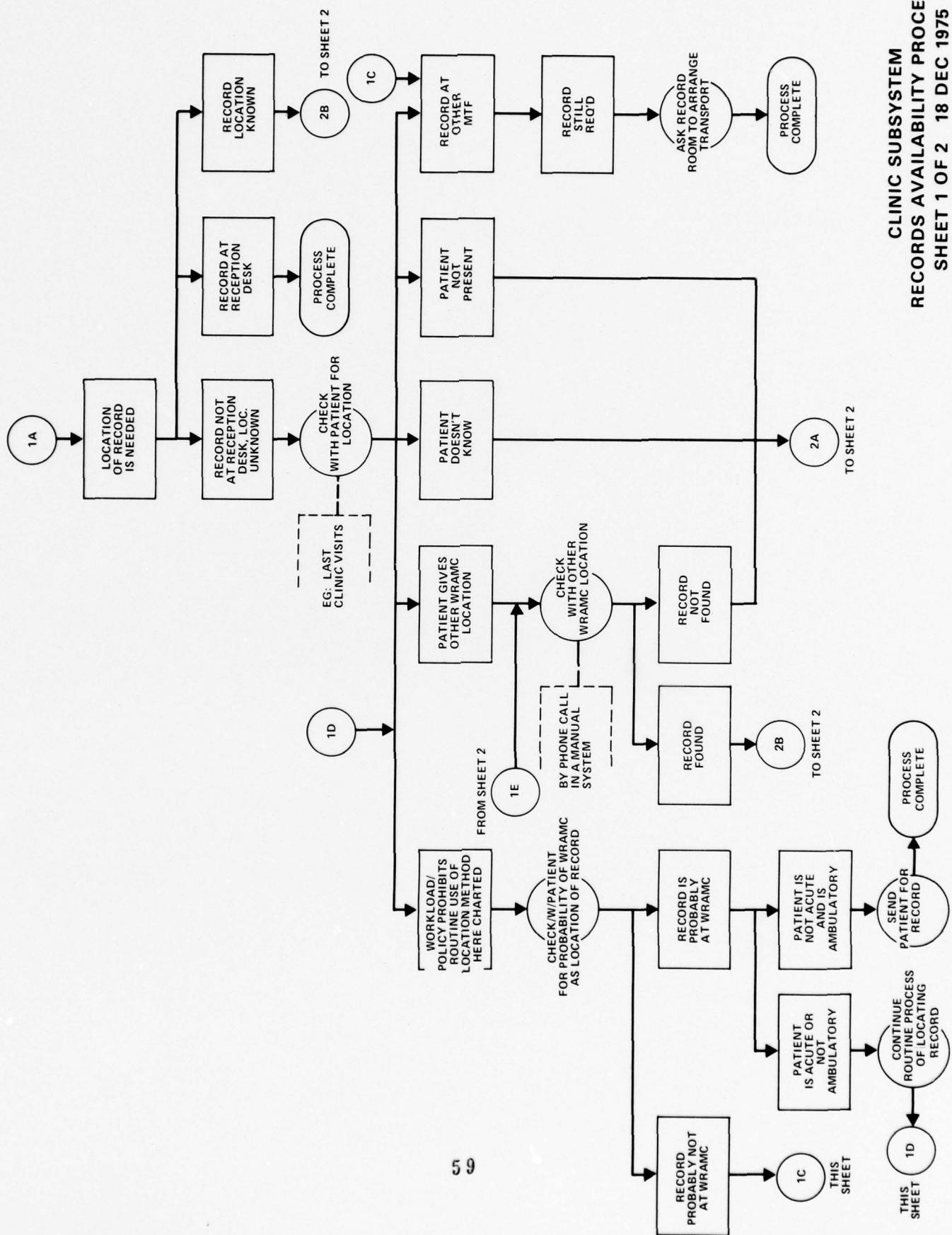
CLINIC SUBSYSTEM
PATIENT FOLLOW-UP PROCESS
SHEET 1 OF 1 11 DEC 75

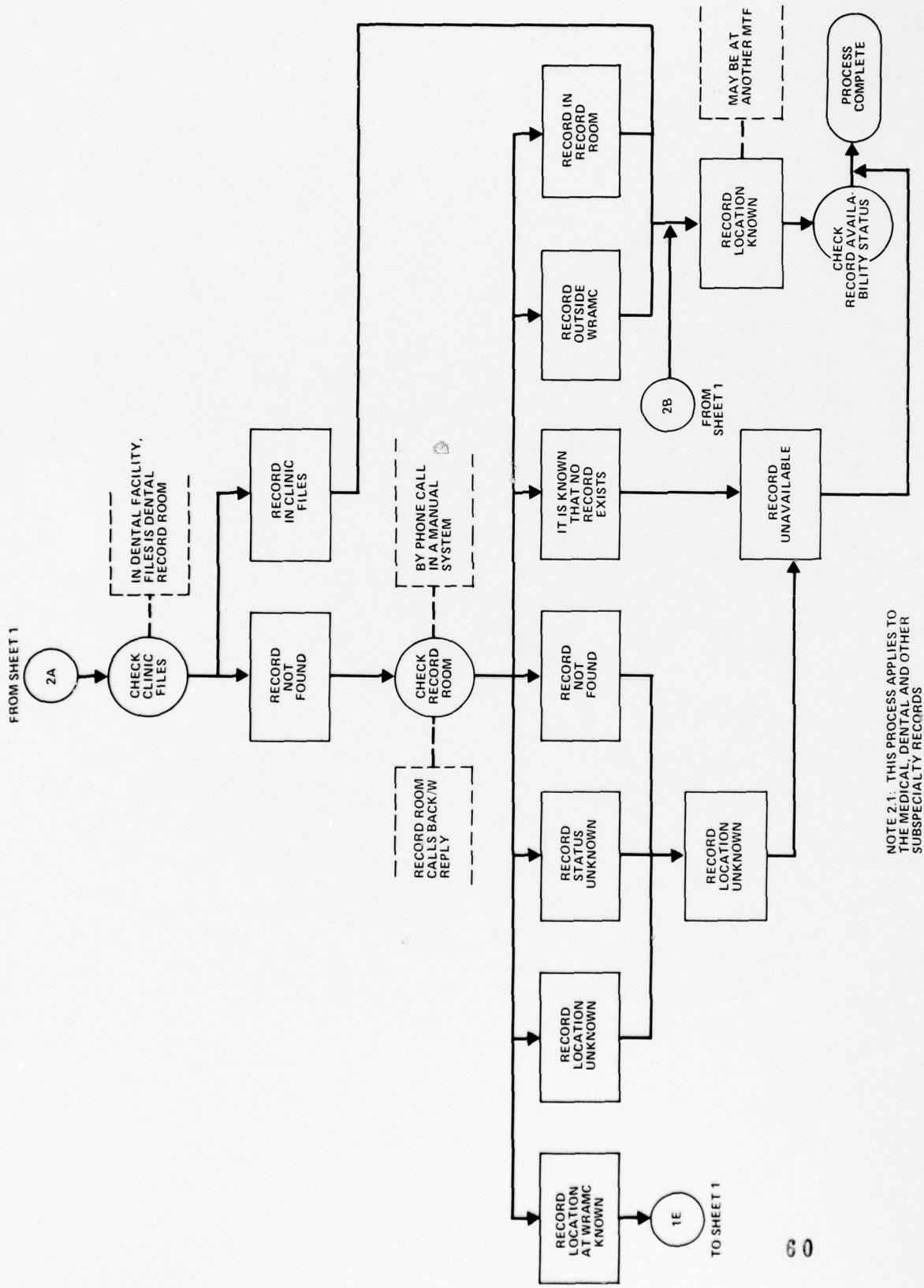




**CLINIC SUBSYSTEM
ORDER SUSPENSE CHECK PROCESS
SHEET 1 OF 1 11 DEC 75**

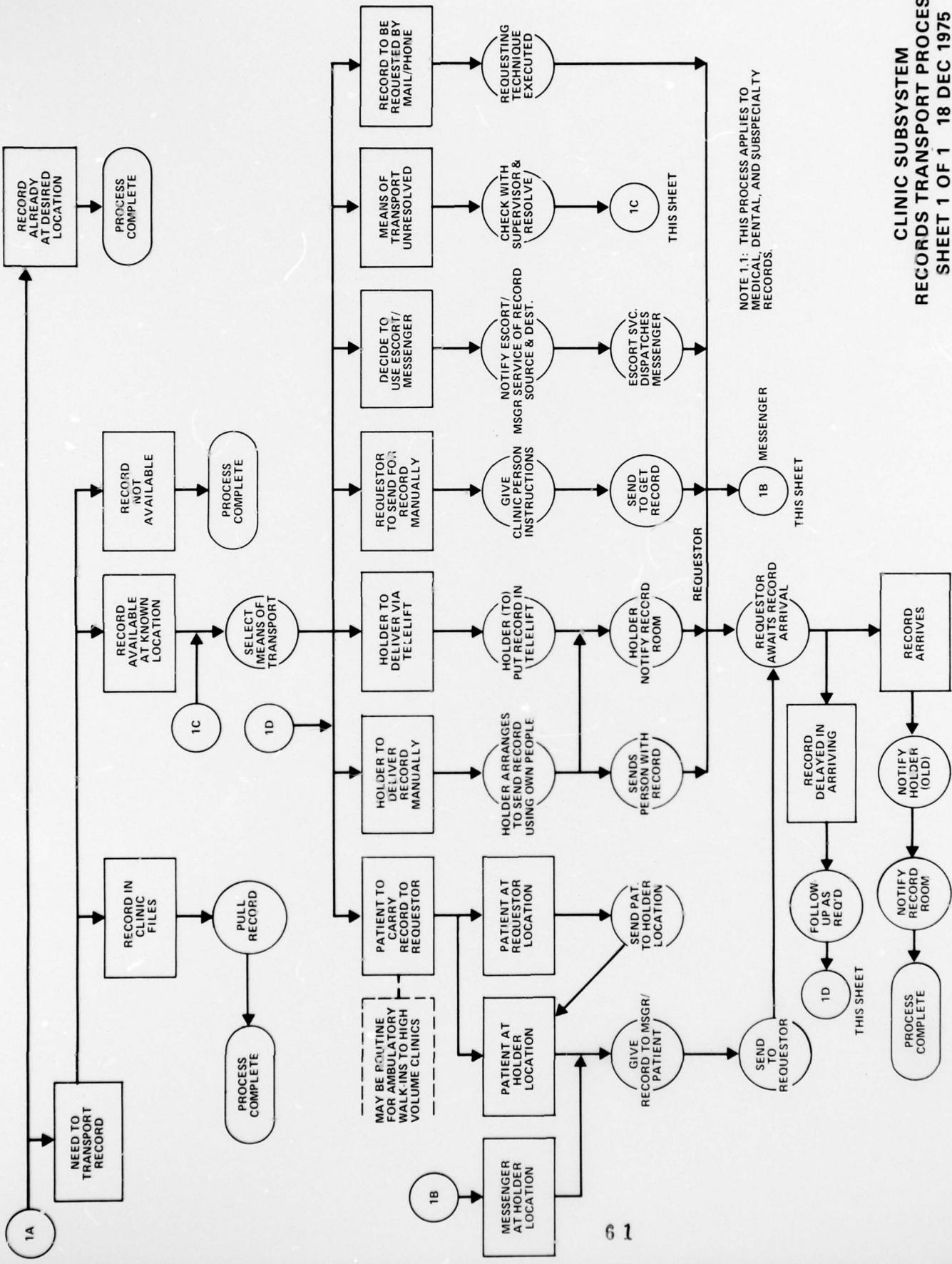
CLINIC SUBSYSTEM
RECORDS AVAILABILITY PROCESS
SHEET 1 OF 2 18 DEC 1975





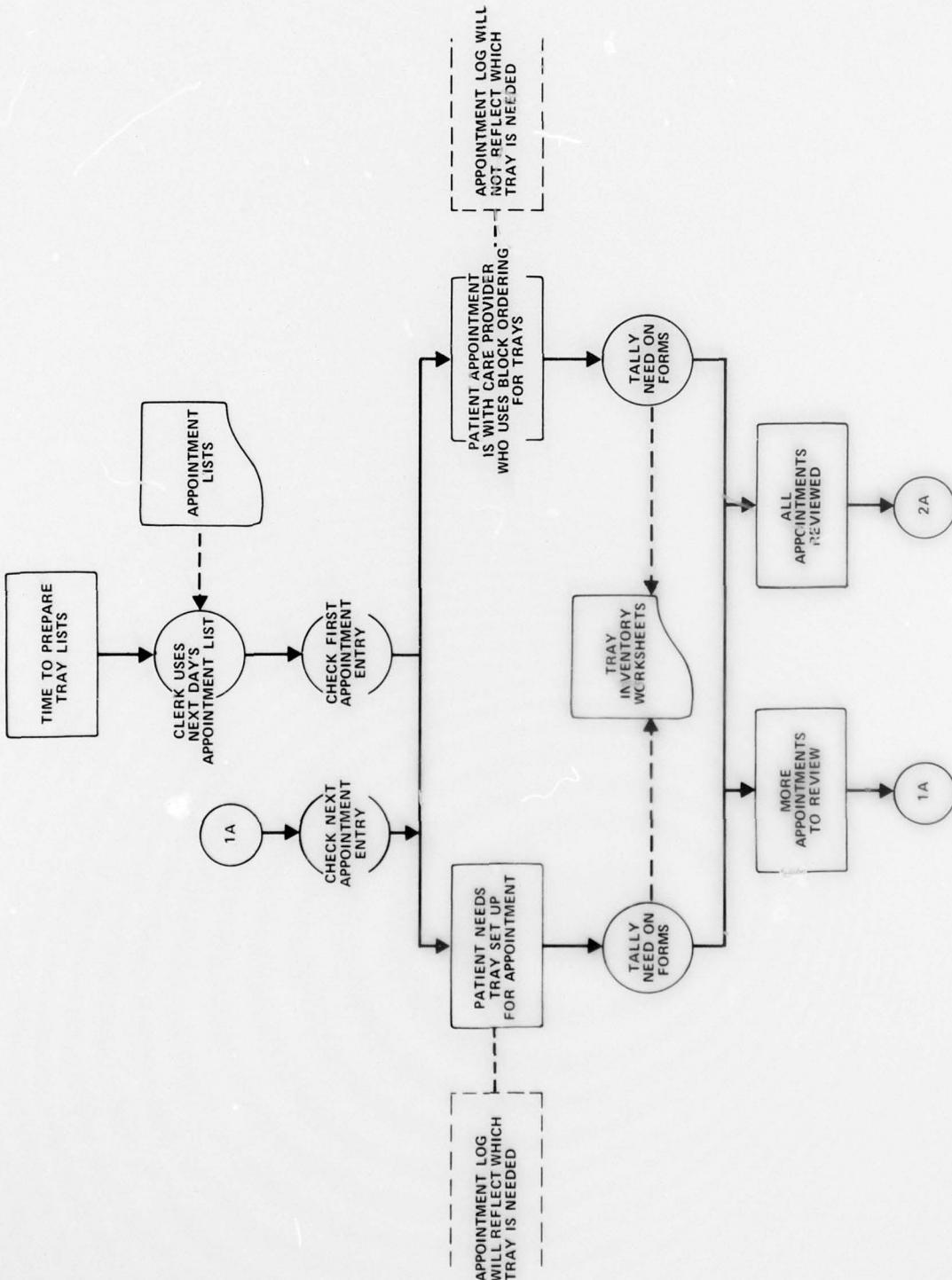
NOTE 2.1: THIS PROCESS APPLIES TO THE MEDICAL, DENTAL AND OTHER SUBSPECIALTY RECORDS

**CLINIC SUBSYSTEM
RECORDS AVAILABILITY PROCESS
SHEET 2 OF 2 18 DEC 1975**

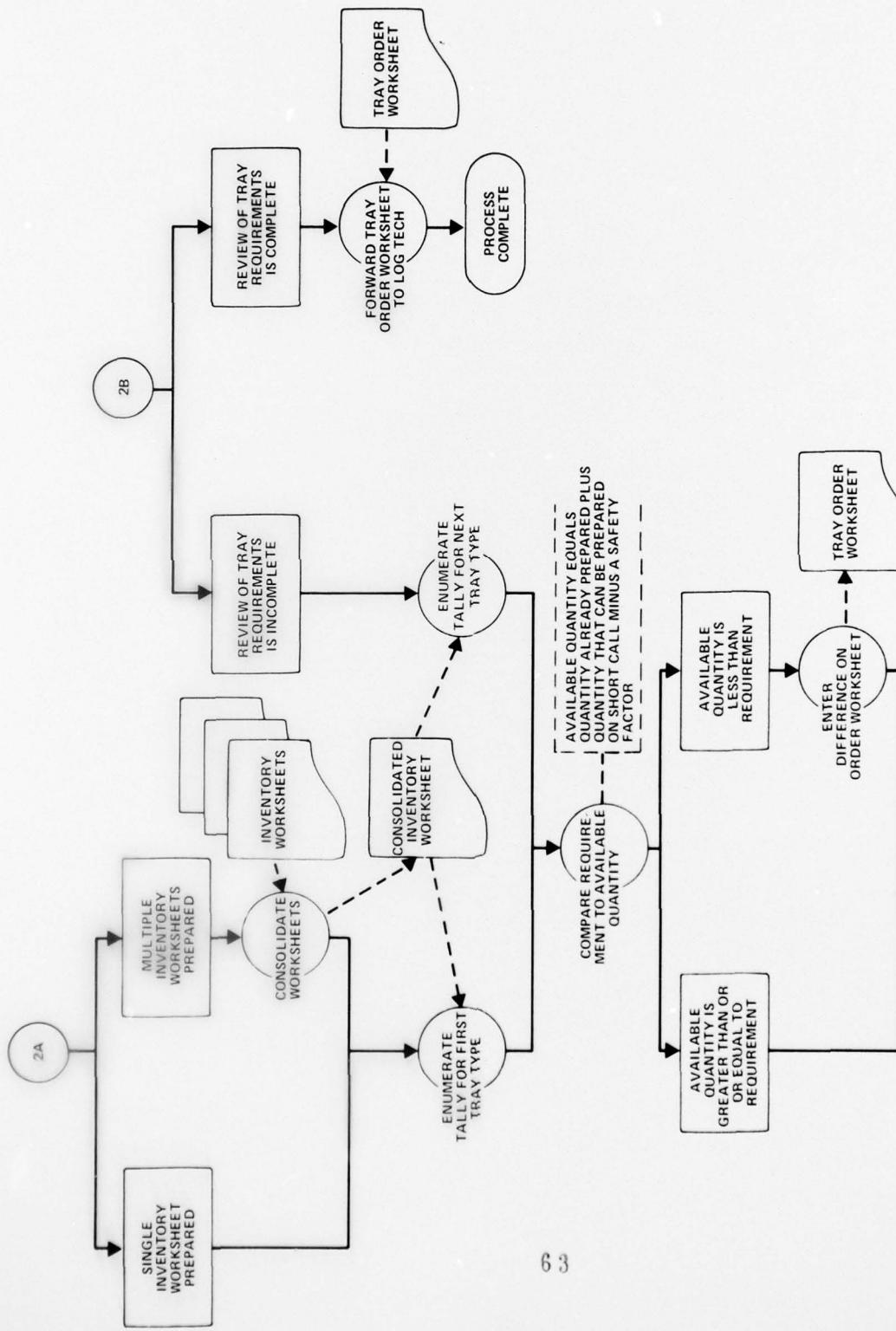


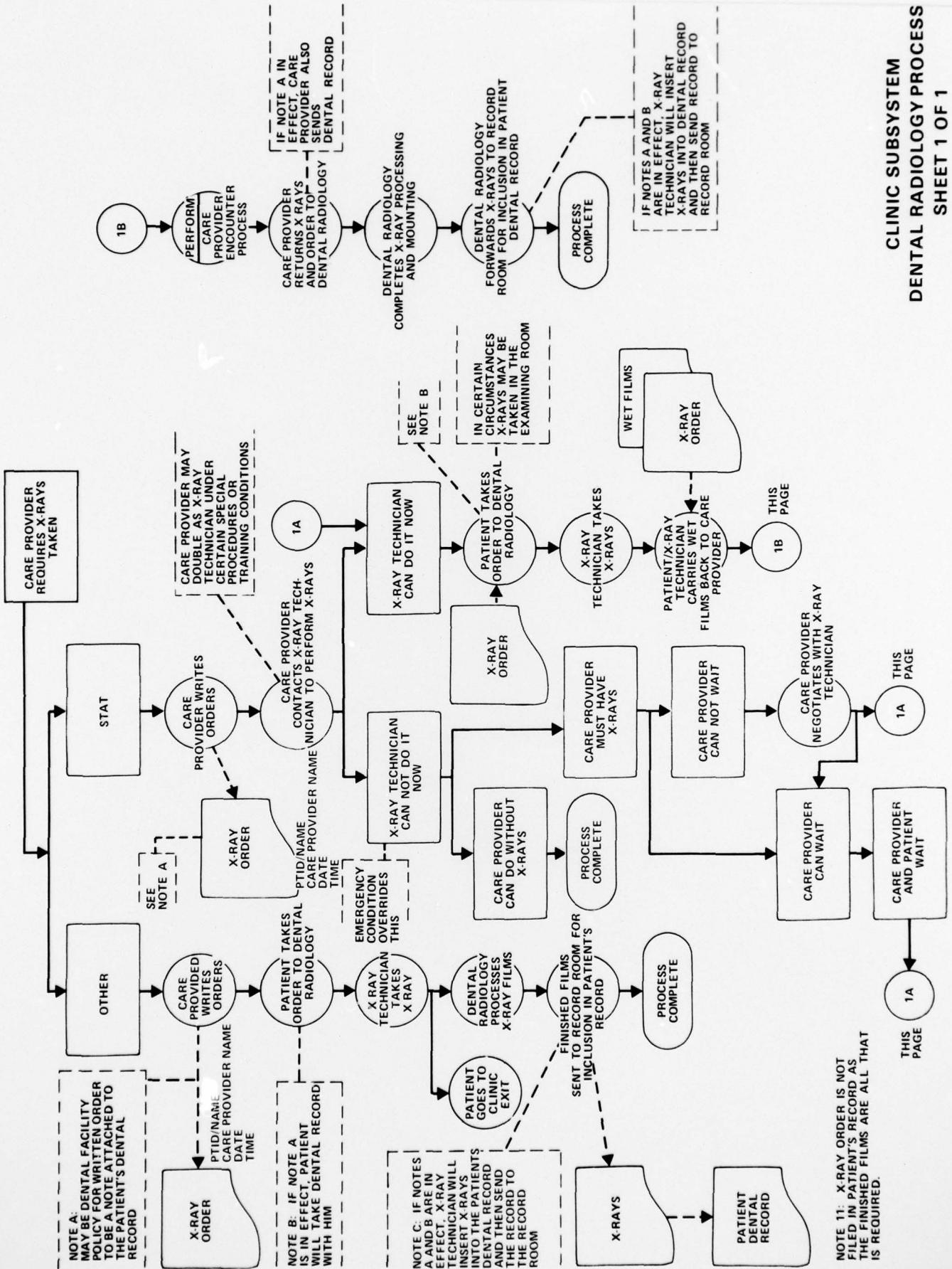
2

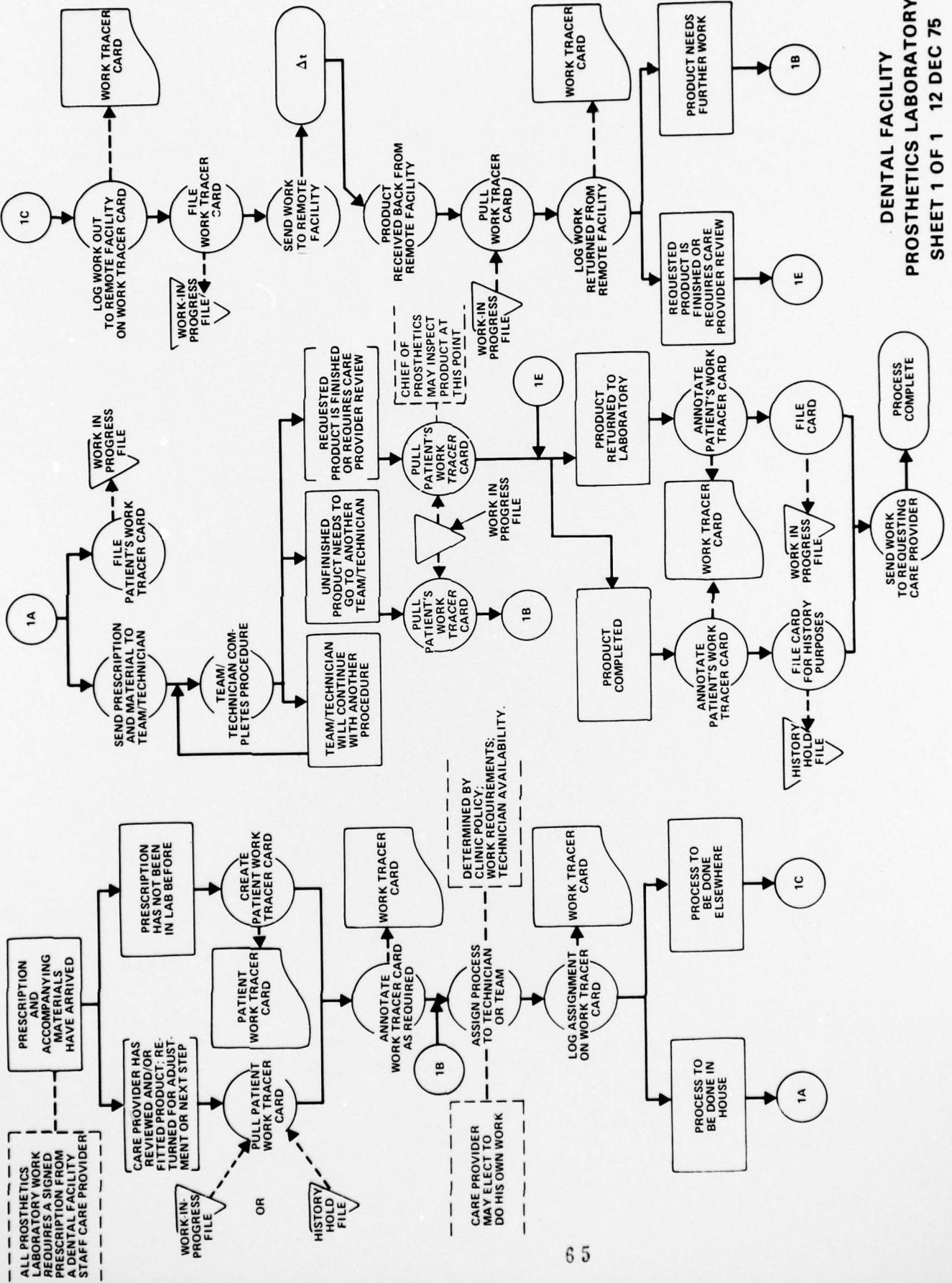
DENTAL FACILITY
PREAPPOINTMENT ACTIVITY
SHEET 1 OF 2 12 DEC 75

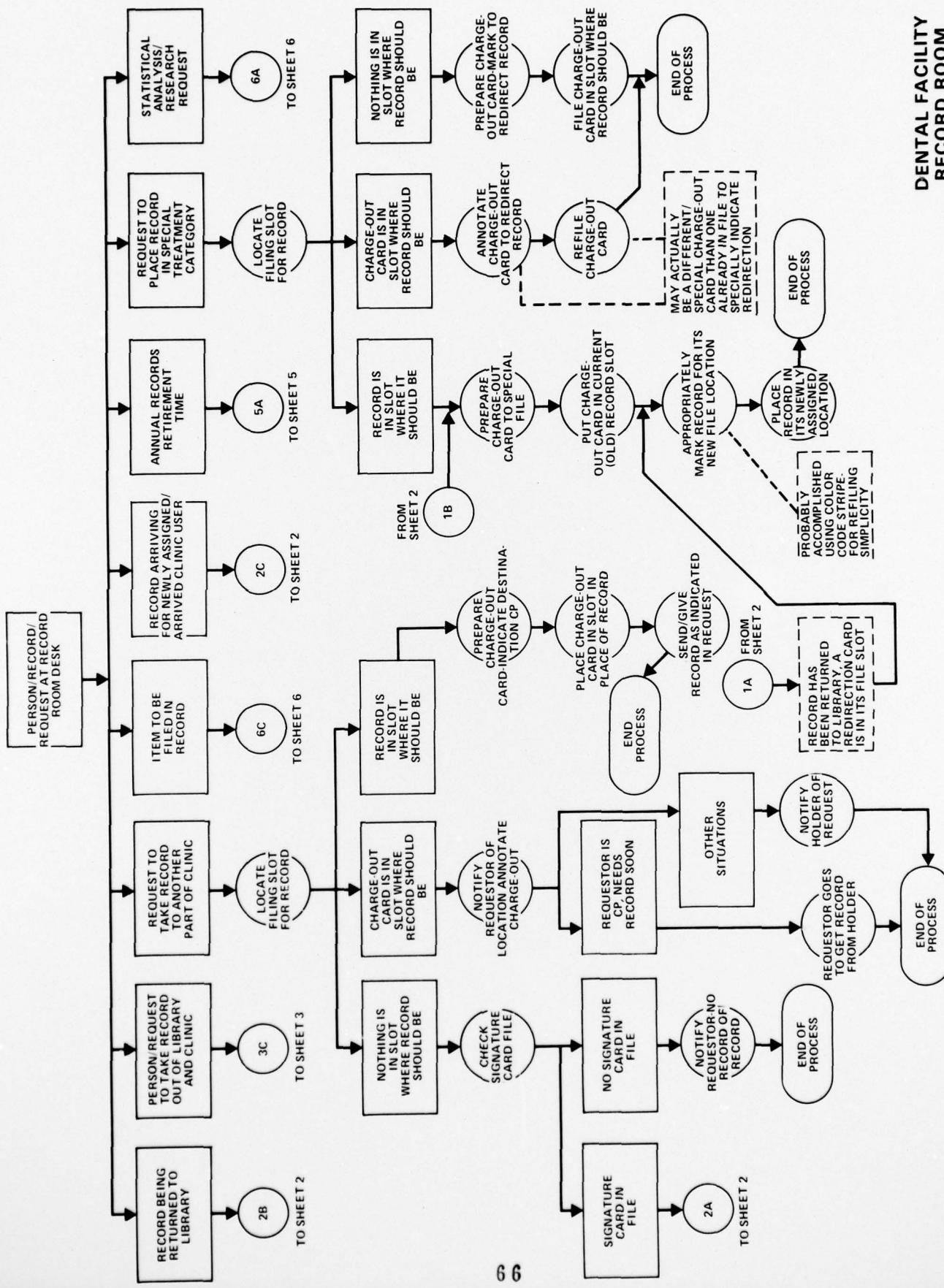


DENTAL FACILITY
PREAPPOINTMENT ACTIVITY
SHEET 2 OF 2 12 DEC 75

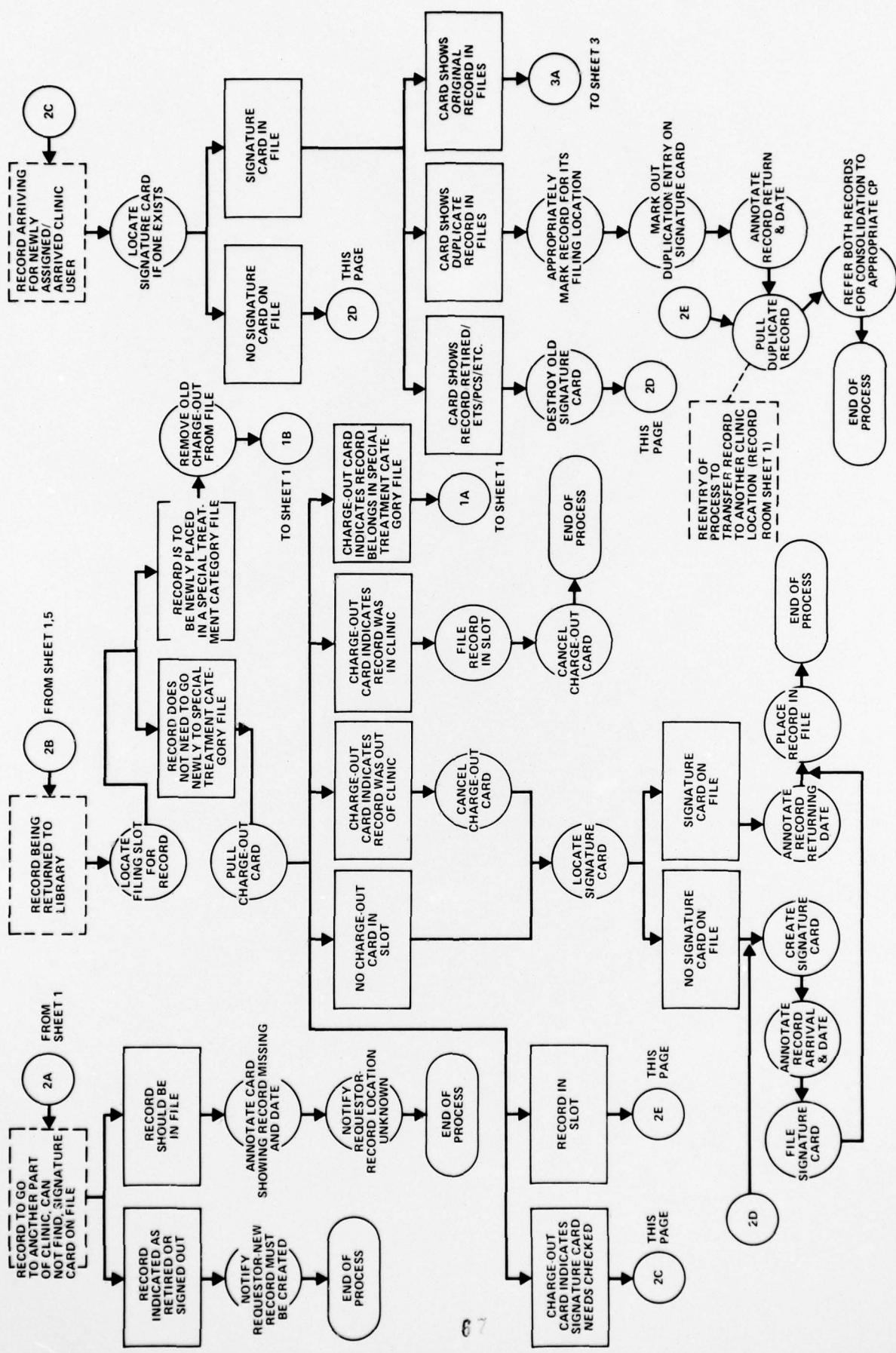


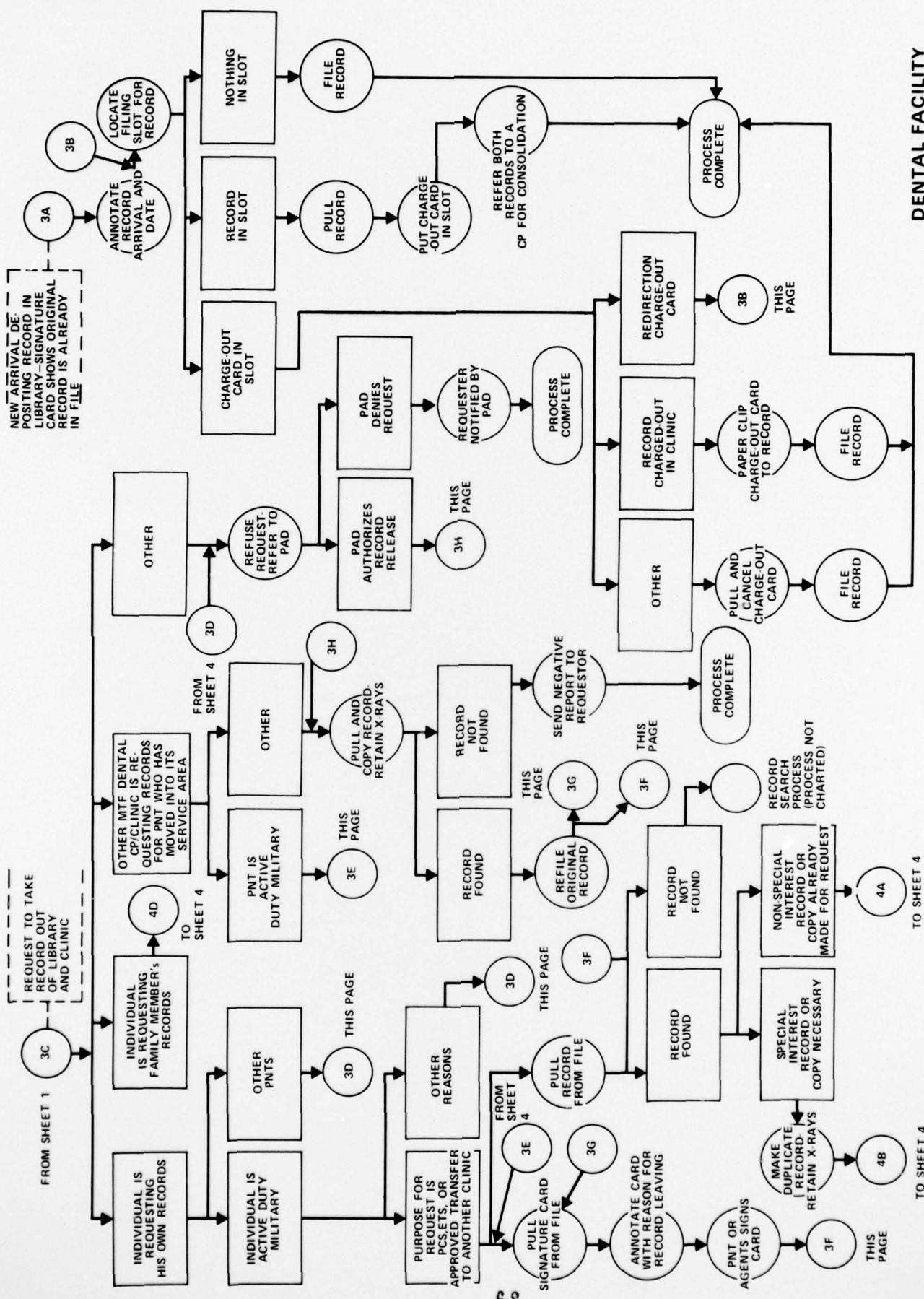




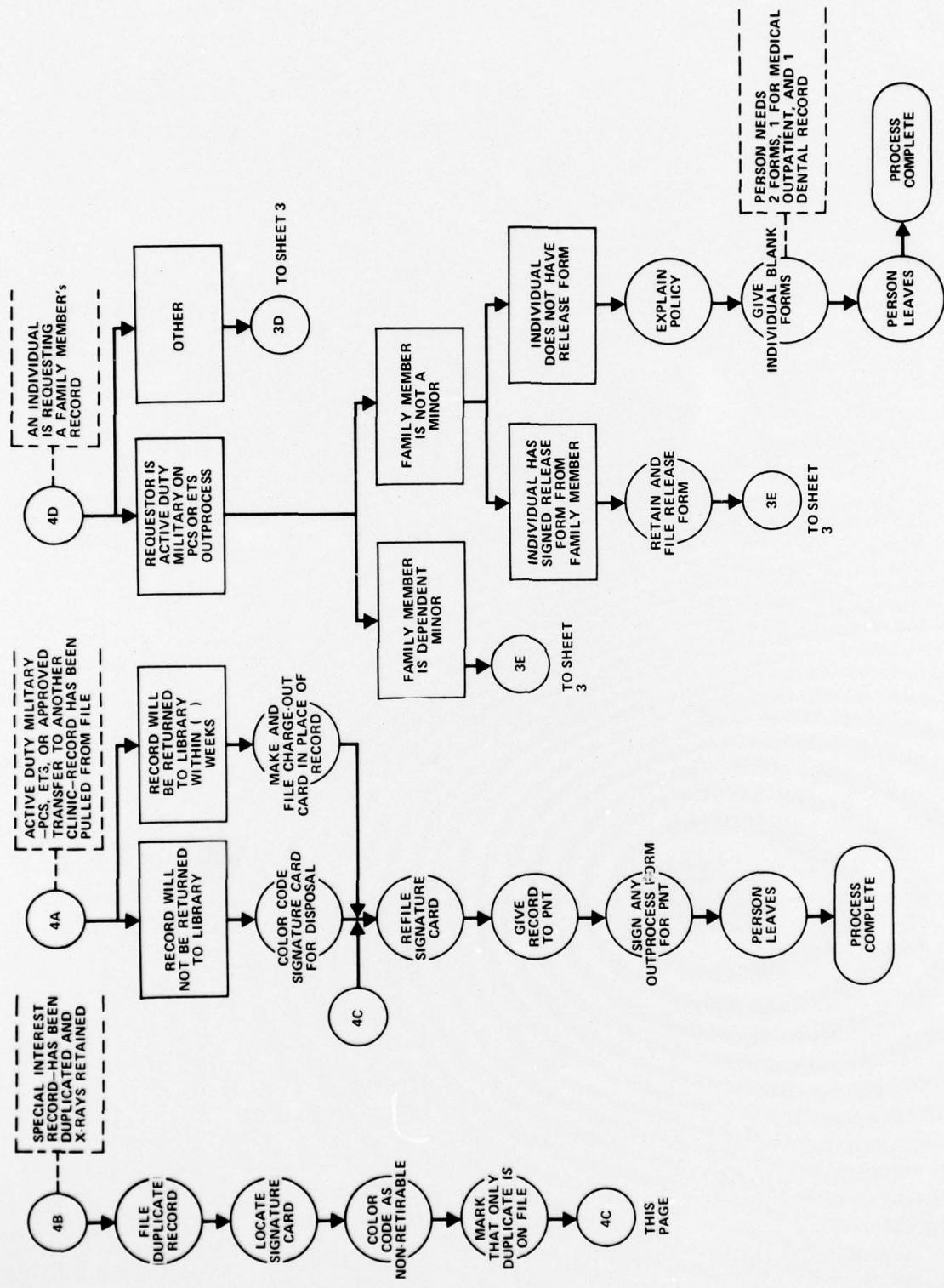


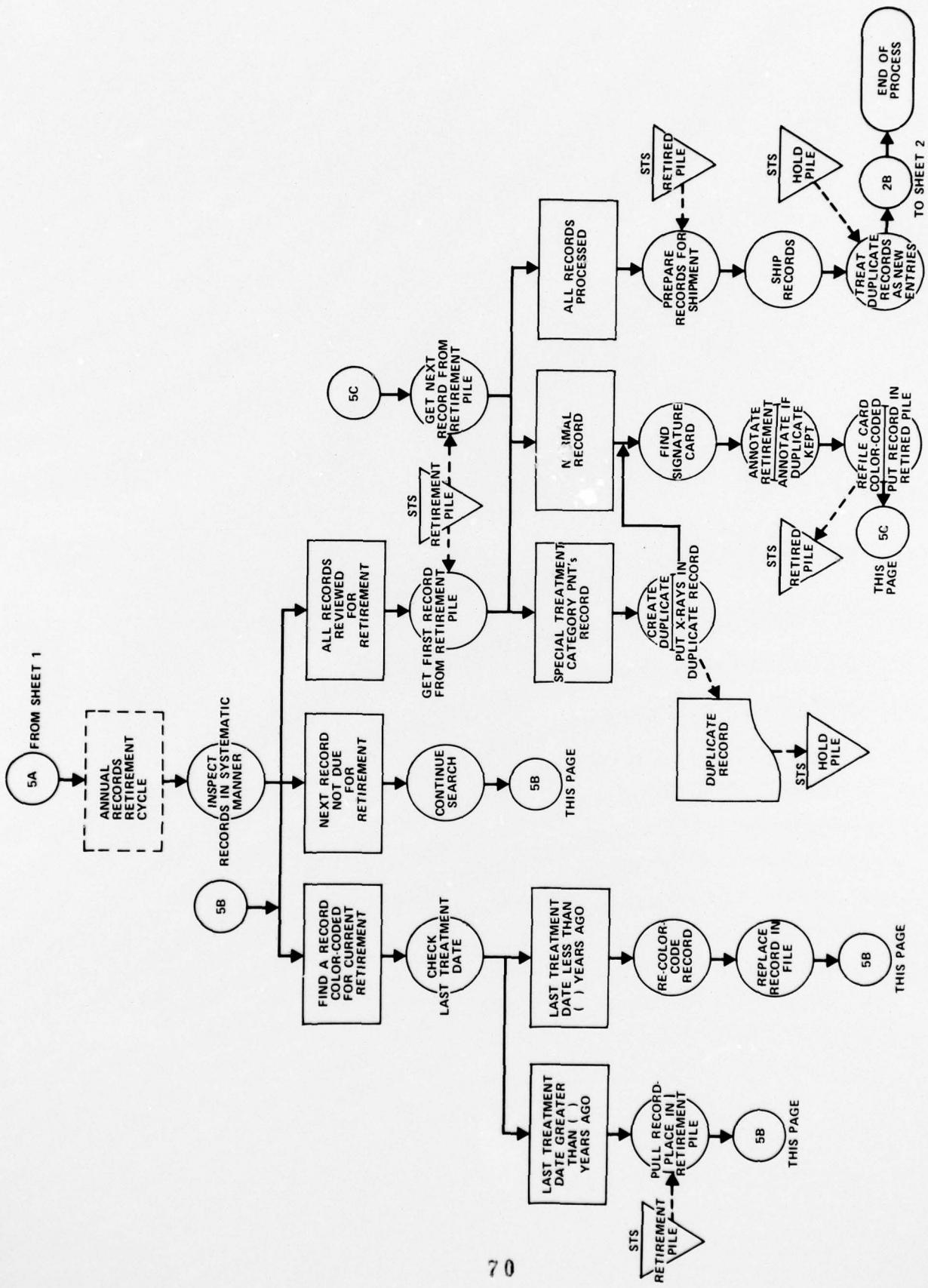
DENTAL FACILITY
RECORD ROOM
SHEET 1 OF 6 18 DEC 1975

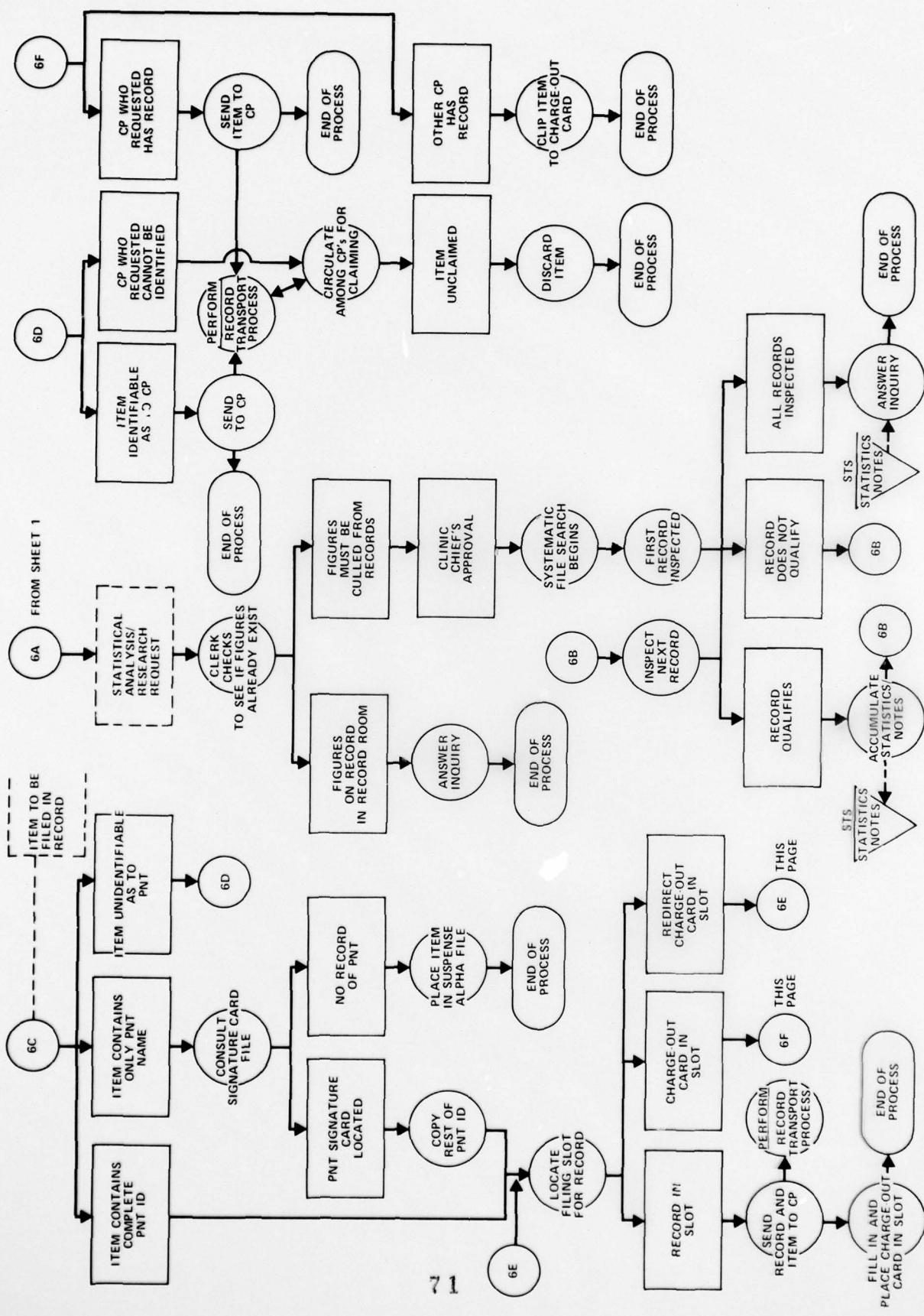




DENTAL FACILITY
RECORD ROOM
SHEET 3 OF 6 18 DEC 1975







DENTAL FACILITY
RECORD ROOM
SHEET 6 OF 6 18 DEC 1975

INDEX TO CHARTS

<u>Process</u>	<u>Page</u>
Admission, Clinic	49
Appointed-Patient Check	26
Appointed Patient Record Pull List	56
Appointment, Clinic	27
Appointment, Dental Facility	67
Appointment No-Shows	55
Care Provider Encounter	29
Clinic Admission	49
Clinic Appointed-Patient Check	26
Clinic Appointment	27
Clinic Exit	37
Clinic Patient Encounter	22
Clinic Reception	23
Clinic Review	42
Clinic Triage	48
Dental Facility Preappointment Activity	62
Dental Facility Record Room	66
Dental Prosthetics Laboratory	65
Dental Radiology	64
Eligibility Check	33
Encounter, Care Provider	29
Exit, Clinic	37

<u>Process</u>	<u>Page</u>
Encounter, Patient	22
Exit, Record	39
Follow-up, Patient	57
Medical Record Availability	59
Medical Record Exit	39
Medical Record Finalization	54
Medical Record Pull List, Appointed Patient	56
Medical Record Room, Dental Facility	66
Medical Record Transport	61
No-Shows	55
Order Suspense Check	58
Order, Written	32
Patient Encounter	22
Patient Follow-up	57
Radiology, Dental	64
Reception	23
Record Exit	39
Record Finaliztion	54
Record Room, Dental Facility	66
Records Availability	59
Records Transport	61
Registration	34

<u>Process</u>	<u>Page</u>
Registration	34
Review, Clinic	42
Triage, Clinic	48
Written Order	32